The Iron

A Review of the Hardware, Iron and Metal Trades.

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Blowing Engines for French Iron
Works.

According to the London Engineer, to which we are indebted for the engravings accompanying this article, English engineering firms have of late received a considerable amount of work from France, and French contracts for locomotives and heavy several leading firms. The accompanying engines have been accreated by several leading firms. The accompanying fillustrations are from working drawings for a pair of compound high and low pressure condensing blowing engines for high furnaces, which have been accounted by an English firm for the Société Anonyme des Mines do For de Planjou et de St. Nazaire, near Nantes, France.

air pump in connection with the low-pressure cylinders of 3 inches, a diameter of 30 inches, a stroke of 3 feet, and is fitted with gun-metal purposes, to do ditto the iron jaws of the giant. Capt. Heber Squier, the representative of the Hartford division of the section of the space of the State Incorder of the State Incorder of the According to the Color in a stroke of 3 feet, and is fitted with gun-metal purposes, to do dithe the iron jaws of the giant. Capt. All the Freshell interpolation of the principles of the William that the machine was started they motive. The machine was started they motive in the condensing blowing engines for high furnaces, which have been constructed by an English firm for the Société Anonyme des Mines de Fer de l'Anjou et des Forges de St. Nazaire, near Nantes, France. These engines have been constructed from French designs, and except that in construction they are built with greater strength than similar engines made in France, they may be taken as fairly good representative.

May 31 gives the following account of a Cates against a Blake-discount of a Gates against a Blake-discount of a Gates against a Blake-discount of a Cates against

The orushers received and discharged the instances to the extent of from 8 to 10

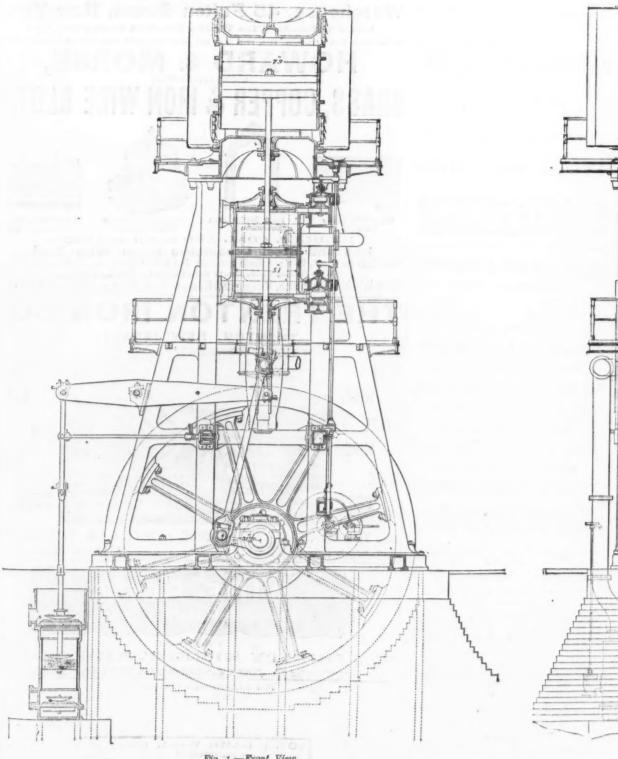


Fig. 1.-Front View.

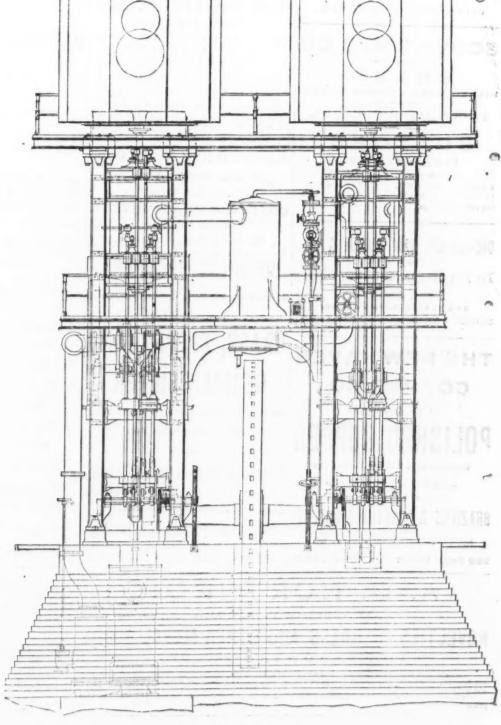


Fig. 2.-Side Viere.

BLOWING ENGINES FOR FRENCH IRON WORKS.

Toke of 5 feet 3 inches.

ow-pressure cylinder 51-inch bore, with respective piston-rods each connected to and then yields only to the persistent pounding cylinders having a 70-inch bore, and then yields only to the persistent pounding of steam and blowing pistons have a looke of 5 feet 3 inches. The engines are constructed that one can be discon were scattered, industriously picking chunks and from the other, and, in the case of high-pressure, worked as an independing high-pressure engine, while the low-sure engine can be worked as a consultant of the sounds of the breaking rock and puffing sure engine can be worked as a consultant of the sounds of the breaking rock and puffing sure engine can be worked as a consultant of the sounds of the breaking rock and puffing sure engine. ing engine, the steam in this case and strength gained by watching the work in progress.

exactly 20½ minutes the car was full of the broken rock and the stone-stuffers ceased their labors. The contractors looked pleased, but the captain was radiant. The machine had performed its work half a minute quicker than he had predicted. "I will give the Blake-Marsden machine 65 minutes to do the same work," he said. The rival crusher was then started up and t ree or four men crowded the rock into it to its fullest capacity. in progress.

A good many spectators were present at the contest yesterday, including Mayor Doolittle and prominent contractors both from little and prominent contractors both from

The Slaz Industry.

Under this head an English paper states that there are now machines in operation in Great Britain that will turn out 10,000 to 12,000 slag bricks per These bricks are described as being On the intermediate pipe connecting the hold low pressure cylinders is fixed high and low pressure cylinders is fixed an inter-heater having a surface of 425 cornish system, the exhaust valves of both Cornish system, the exhaust valves of or bits and other cities. The watch was held cylinders having a constant lead and lift. Cornish system, the exhaust valves of both cylinders having a constant lead and lift. The watch was held given when a carload, or nine yards, of rock the Blake crusher. The committee who had charge of the steam from every point, ranging from .1 to .8 of the stroke. The

yes of French ideas. They consist of two its torn and jagged surface to the relentless discharged the rock, while the captain and pertical engines, the one having a high-low of the blasters. The hill seems to be one solid mass of trap rock, which sometimes are cylinder 32%-inch bore, with low-pressure cylinder 51-inch bore, which low-pressure cylinder 51-inch is attributed to various matters in the ores, probably sulphide of manganese. colors of the slag, however, vary with their composition and the conditions under which the furnaces are worked, but the slags produced from furnaces with light burdens and making gray iron are usually swork," he said. The rival crusher was started up and t ree or four men ded the rock into it to its fullest capacturing less mortar than ordinary bricks. The question as to which machine dwin was settled in two minutes. The unit discharged into the car was very tant discharged with the volume that had ger compared with the volume that had ed out of the Gates crusher. The crowd set of the car was very to be a started up and tree discretized with the volume that had nixing it with sand, and then pressing. Both bricks and slabs are found well a fluid state and casting it in molds. At present however, the utilization of the slag into the car was very to be a fluid state and casting it in molds. At present however, the utilization of the slag into the car was very the utilization of the slag into the car was very to be a fluid state and casting it in molds. At present however, the utilization of the slag into the car was very the utilization of the slag into the car was very the utilization of the slag into the car was very to be a fluid state and casting it in molds. At present the properties and making gray from are usually white or gray. Where the burden, however, the utilization of the car was very the utilization of the car was very the utilization of the slag into the car was very the utilization of the slag into the car was very the utilization of the slag into the car was very the utilization of the slag into the car was very the utilization of the car was very the utilization o

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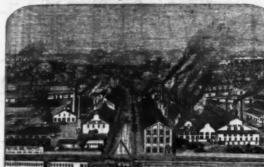


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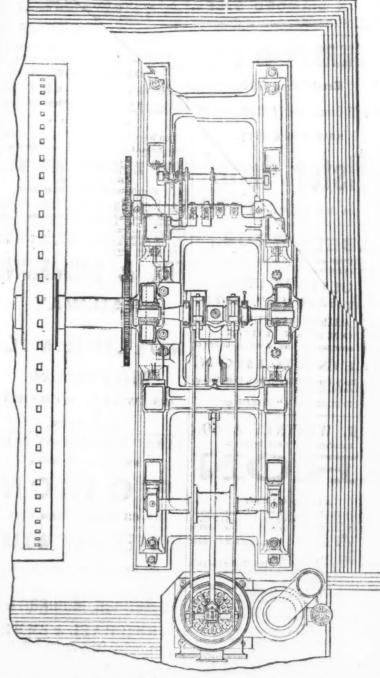
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of manufacture to the test of criticism, to



Blowing Engines for French Iron Works .- Fig. 3. - Plan and Section of Engine.

attained. The following article from the June number of the Journal of the Franklin largely made up, and of the clays which result Institute contains a report from the secretary upon this subject, in which he gives the result of his investigations concerning this new process. It will be observed that Dr. Wahl's conclusions are practically identical with those which we, from less accurate data, Abundant as are the ores of this metal,

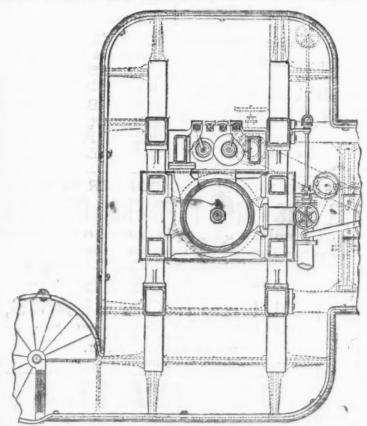


Fig. 4.—Plan of High-Pressure Steam Cylinder.

had reached. The report is of exceptional interest, and, like most of the Doctor's writings, is very valuable to the practical man:
The technical papers for the past month or two have been full of accounts of a new process for manufacturing the metal alumnum, said to have originated in England, and by which, it is affirmed in very positive terms, the price of this metal has been reduced from \$5000 per ton to \$500, or to about 25 cents per pound. I shall in the proper place subject this alleged new process

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failures, the efforts of Wöhler were crowned with success in the year 1817. The properties of the new metal were found to be so remarkable that the attention of chemists was at once attracted to the subject of its production; but the metal obstinately resisted all efforts to produce it in quantity until the year 1854, when St. Claire Deville solved the problem measurably by reducing the metal from anhydrous chloride by reducing tion with metallic sodium. It was thought then that the successful solution of the problem of producing aluminum on the commer-cial scale would speedily bring about a revo-lution in the metallurgical world. But though nearly 30 years have elapsed since that time, aluminum is still, by reason of its high price, ranked among the more precious metals, and is consequently debarred from competition with copper, zinc, tin, iron and steel for the numerous industrial uses for which it is well adapted by reason of its many admirable and unique qualities. What these are will appear from the following brief rehearsal:

The metal aluminum has a grayish-white color, between that of zinc and tin; it is exceedingly light, being only two and a half times heavier than water—that is, about three and a half times lighter than copper, four times lighter than gold. It is remarkably sonorous giving out a very clear purion. ably sonorous, giving out a very clear musical tone when struck; it is very unchangeable in the atmosphere, surpassing in this respect most of the baser metals—iron, copper, &c., and resembling the precious metals silver and resembling the precious metals silver and gold. It is very difficultly oxidizable, nitric acid (aqua fortis), which attacks and destroys nearly all the metals with the greatest energy, having little or no action upon it, and even the white heat of the furnace only suffices to oxidize it super-ficially. It has a tensile strength equal to that of covers and conducts electric. to that of copper, and conducts electricity nearly four times better than iron. It forms alloys with many of the metals, many of which have remarkable qualities. Of these alloys, those with copper—the so-called aluminum bronzes—are the most notable, being possessed of such valuable properties that their extensive adoption in the arts is only hindered by the one circumstance

of their comparatively high cost.

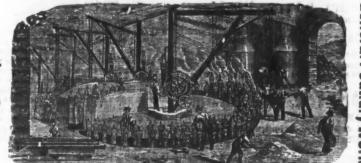
From the above brief résumé of the leading characteristics of this remarkable metal, it will be apparent that a wide field would at once be opened for it in almost every department of industry, if once the problem of its cheap production were solved; and assuming the truth of the newspaper accounts respective the alleged new process. and assuming the truth of the newspaper accounts respecting the alleged new process of producing it in England at 25 cents per pound, the statement that the invention would "effect important changes in the metal trade, not only in England, but throughout the world," is not in the least expressed. Unfortunately, however, the alaggerated. Unfortunately, however, the alleged new procedure of Mr. Webster, of Hollywood, near Birmingham, which has been the recipient of a larger share of gratuitous advertising than any other patented process that has appeared for some years, will not bear a critical investigation. The process bear a critical investigation. The process embraces two principal elements—the preparation of an anhydrous chloride of aluminum, or of a double chloride of aluminum and sodium, by a very tedious and roundabout method, and from this chloride the metal is subsequently obtained by the use of sodium as a reducing agent.

I was greatly interested in getting at the details of this new process. Months before anything was published concerning it, it was whispered in scientific circles in England that the problem of the cheap production of aluminum had at length been solved. Even so eminent a luminary in the metallurgical world as Sir Henry Bessemer, in an address before one of the leading British engi-neering bodies, foreshadowed the an-nouncement of some remarkable discovery, and set all the scientific world agog with curiosity. At length, after some months of patient waiting, the technical journals of England announced the procedure of Mr. Webster with a grand flourish of trumpets, the American journals have taken up the refrain, and it appeared to occur to no one to subject the ex-travagant claims of the alleged improve-ment to the test of intelligent criticism. For myself, I cannot refrain from the statement that I was more than astonished that claims so grossly and palpably erroneous and exaggerated should have been permitted to pass unchallenged in the country where they originated, and which boasts of so many eminent authorities in metallurgy. The alleged new process is almost a literal copy of the old, time-honored method introduced and practiced in France for the past 20 years, In the only important features—namely, the production of an anhydrous chloride, and the reduction of this by means of sodium—it is absolutely the same. The only features that can be called new relate to the method of treating the raw material, some convenient and cheap aluminous substance, and after reading Mr. Webster's patent specification, I am well satisfied that those portions of the process that are new are the only portions that are worthless.

All this may seem to be unnecessarily severe upon Mr. Webster, but in explanation I have to urge that when an inventor pub-I have to urge that when an inventor publishes his invention with such extravagence of statement he must expect the most searching investigation of his claims. The utter absurdity of Mr. Webster's claim to be able to produce aluminum at a cost of £100 (ahout \$500) per ton, which would be equal to about 25 cents per pound, will appear from the simple statement that to reduce I pound of metal from the chloride requires, theoretically, very nearly 3 pounds quires, theoretically, very nearly 3 pounds of metallic sodium, and in practice nearer 4 pounds than 3, and the cost of the sodium alone required for the reduction of a pound of the metal will be almost \$1, if not more. of the metal will be almost \$1, if not more, to say nothing of the tedious and costly preparation of the chloride. But I have said enough. Aluminum, I am satisfied, is the coming metal, destined one day to play as preminent part in the arts of civilization, perhaps, as iron, but after raising our expectations to so exalted a pitch, Mr. Webster's much advertised solution of solving the problem of producing it cheaply forcibly recalls to memory, by the similarity of its descent from the sublime to the ridiculous, the old quotation: "Parturium montes, nate-cetur ridiculus mus." cial the old quotation :

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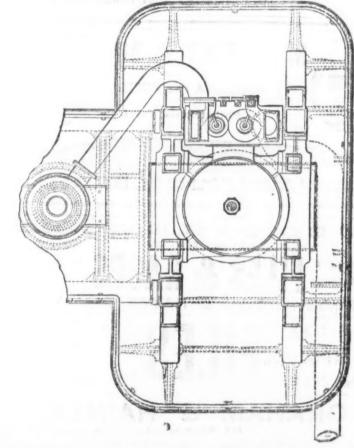
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The Navy Yard Commission.

Secretary Chandler has received and con-Secretary Chandler has received and considered memoranda furnished him by the Navy Yard Commission, of which Commodore Luce is president, concerning their development shall have been prepared and report to Congress. He approves of their recommendations for the closing of certain yards and concentration of the organization of the Cob Dock for a wet basin. The

The commissioners recommend that the New York yard be retained as a first-class yard, but that no money shall be spent in the way of improvements, either in the yard the organization of the organization and reduction of expenses in the remore says New London should be dropped forthwith from the list of navy yards, and that naval station's stores and material of are as follows:

That there shall be reorganization and concentration of the mechanical department of every navy yard, so that there shall be



Blowing Engines for French Iron Works .- Fig. 5 .- Plan of Low-Pressure Steam Cylinder.

one shop in each for the performance of the same class of work. The commission advise that the Pensacola yard be closed; that the Pensacola yard be closed; that the Norfolk yard be retained in first-class condition; that the Washington yard be dropped from the list of navy yards and be designated as a naval arsenal, retaining it in full working condition for the manufacture of certain specified articles only under the Bureaus of Equipment and Ordinance.

It is recommended that the League Island Navy Yard be closed, both as a yard and as expenditures for fortifications will be re-Navy Yard be closed, both as a yard and as a naval station, until plans have been prepared and approved for such a yard as the department requested authority to construct and Congress authorized, and until the fill-

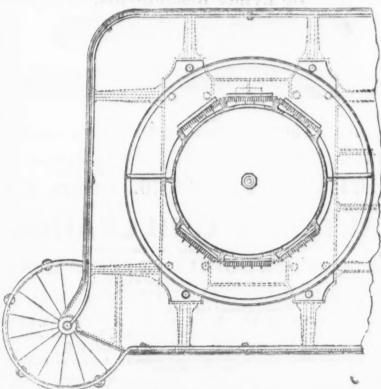


Fig. 6.-Plan of Blowing Cylinder.

ing and construction of the quay walls and gateways to the great ship basin in the back channel are completed. The present plans contemplate the construction of exactly what the department declared it did not want, viz., another similar yard to those it then possessed, whereas the department demanded a great iron-shipbuilding and ironmanufacturing yard only. This change of plan necessarily involves the expenditure of an enormous sum of money for purposes. YOUNGSTOWN MALLEABLE IRON COMPANY, YOUNGSTOWN, Ohio.

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Too valuable and desirable to be abandoned, and do not believe similar or equal accommodations can be procured elsewhere at lower cost. They believe that no better locality than the Delaware River can be found for the purpose for which the site was selected, and therefore recommend the completion of this yard on the original basis; but they are also unanimously of the opinion that it is totally unfit for an ordinary or small yard, and that if the original plan is to be abandoned, and do not believe similar or equal accommodations can be procured elsewhere at lower cost. They believe that no better locality than the Delaware River can be found for the purpose for which the site was selected, and therefore recommend the completion of this yard on the original basis; but they are also unanimously of the opinion that it is totally unfit for an ordinary or small yard, and that if the original plan is to be abandoned.

Exric and Western, and the Pennsylvania and do not believe similar or equal accommodations can be procured elsewhere at lower cost. They believe that no better locality in 1880, or upward of 300 per cent. The purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore recommend the completion of the purpose for which the site was selected, and therefore rec

want, viz., another similar yard to those it then possessed, whereas the department demanded a great iron-shipbuilding and iron-manufacturing yard only. This change of plan necessarily involves the expenditure of an enormous sum of money for purposes that are not required, as they exist in other yards, and which would therefore be unjustifiable. The commission consider the site too valuable and desirable to be abandoned, and do not believe similar or equal accommodations. Increased Efficiency of our Railroad System.—Mr. William P. Shinn has prepared for the report of the Bureau of Statistics a statement upon the increased efficiency of the railroad system of the United States. This paper shows that in the three leading railroads of the country—viz., the New York Central and Hudson River; New York, Lake Erie and Western, and the Pennsylvania Railroads—the traffic increased during the Erie and Western, and the Pennsylvania Railroads—the traffic increased during the

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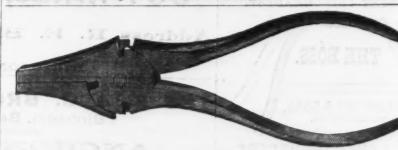
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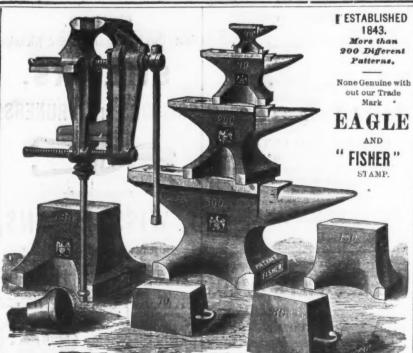
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The Condition of the Building Business.

According to the custom of former years, says the editor of Carpentry and Building in the issue for June, we shall endeavor upon this occasion to give our readers me general particulars concerning the ondition of the building business throughcondition of the building business through-out the country at the present time, to-gether with the prospects for the season. The country, as is very generally known, has enjoyed two years of marked pros-perity in the building trades. Operations have been large during that time in almost every direction, and the number of men employed and the amount of building done in villages and farming, sections has been in villages and farming sections has been almost as great proportionately, as in the cities. The indications are that the present year will be equally prosperous. While there is less activity in some of the great business centers than was the case last year, and the year before, the general average, taking the country from one extreme to the other, is quite as good at the present time as for the corresponding period in either of the seasons named. In one important re-spect the outlook at the present time is different from that of last year. Prospects in many sections of the country last spring were clouded by anticipated strikes and ex-isting differences of opinion between employer and employed concerning wages. At present there seem to be no well-developed disputes of this kind, although clouds not larger than a man's hand appear above the horizon in one or two directions.

horizon in one or two directions.

The information upon which we are basing our remarks, and upon which depend the facts and figures following, is derived from replies to circulars which we have sent to subscribers of Carpentry and Building in every town of 2000 inhabitants and upward throughout the country. From the mass of responses that we have received we have made tabulated statements for each State and Territory, so that as we write we have before us a map, as it were, showing in a graphic manner the opinions of our correspondents upon the points about which correspondents upon the points about which we have inquired. We asked the rate of wages per day for stonemasons, bricklayers, carpenters, painters and plasterers, with reference to what was paid last year, the rates current at present, and how they are likely to rule for the remainder of the the character of the work upon which mechanics are at present engaged, the pros-pects of new work during the season, and how this outlook compares with that of a year since. Lastly, we asked what causes ters giving many interesting particulars for which no provision was made in the blank report we sent them. In an article like this, necessarily restricted in its length, we can do but scanty justice to the vast array of

Throughout the 58 towns in Maine to which we addressed our circulars of inquiry, we learn last year; that mechanics are fully em-ployed in all but two of the towns reported, and that the prospects of new work for the remainder of the season are fair in almost chusetts, all report wages as likely to rule advance is considered probable. The rates in these two towns as at present reported existed last season. Of the 21 towns in an anticipation of an advance in rates. Our Rhode Island, most of them report about the correspondent from that point does not seem to give a good reason for his expectations in

ago, while some say there will be more, and only a few less. Wages throughout the State rule about the same as a year ago, the large towns paying close up to the prices named for Boston above. Connecticut seems to be less favored than the other Eastern States to which we have referred. Out of the 69 towns, 10 report much less building in prospect now than a year ago, while a large number of our correspondents venture no opinion whatever. A few have said there would be more, while others content them-

prosperity of the past two years characterize the 144 towns in New York State. Wages are reported higher in several places, while mechanics are fully employed in a majority of them. A very small number of unimportant places report less work in prospect now than a year ago, the vast majority of now than a year ago, the vast majority or the towns anticipating a larger trade than last season. In New York City the building business is probably quite as active at the present time as for the corresponding period in either of the last two years. Not so much is being said about it at the present time as in either of the last two years. Not so much is being said about it at the present time as two years ago, because people generally, and the newspapers particularly, have become accustomed to the large operations which are proceeding in all directions. Wages are among the highest paid anywhere in the country, and rates are firmly maintained. Some of the large huilding projects which at the of the large building projects which at the time of our report last year were temporarily suspended on account of labor difficulties have been resumed, and either have been completed or are being actively pushed at the present time. Other large operations are almost daily reported. While wages rule high in the great city, the increased cost of living and the lack of family comforts which the crowded condition of the metropolis causes gives the city workman quite as little to show for his labor as the man taking smaller wages in some of the interior towns The prospects are good throughout the 54 towns of New Jersey, with the exception of Long Branch, which is conspicuous in reporting poor prospects.

In most parts of the Keystone State the building business is in a healthy condition. Our correspondent in Pittsburgh quotes stone-masons, \$3.25; bricklayers, \$4; carpenters, \$2.75; painters, \$3.25, and plasterers, \$3. He also says that an advance on these rates is probable. Very few towns throughout that State report less than the full number of me-chanics employed, and only seven towns re-port less business in view than a year ago. port less business in view than a year ago. Among these may be mentioned Titusville, in the oil region, in which the outlook is said to be poor. Our correspondent there reports about two-thirds of the mechanics as likely to have steady employment through the remainder of the season. Delaware is up to the general average. Nearly all her mechanics are employed; the general outlook is fair, and wages rule about as last year. The same may be said of the District of Columbia. same may be said of the District of Columbia nalhough in Washington City more work is

titcipated than was done in 1882.

The Southern States, taken together, present a less cheerful outlook than some of those to which we have just directed atten-tion. Of the 15 towns in Maryland, none are likely to rule for the remainder of the season, in each of the trades named. With reference to employment, we inquired what proportion of the mechanics in the building trades in the several places were employed last year, what number are at present fully employed, and what proportion, in the opinion of our correspondents, will have steady employment throughout the season. We also inquired about new business, as to the character of the work upon which methods. With the exception of Richmond Norfolk With the exception of Richmond Norfolk. With the exception of Richmond, Norfolk and Hampton, wages are quite as low as those last mentioned. A slight advance is anticipated in one or two of the towns in how this outlook compares with that of a year since. Lastly, we asked what causes have led to the general condition of affairs that our correspondents report. The responses have come in voluminously, and, in addition to the formal answers to questions, many of our subscribers have written us letters giving many interesting particulars for which no provision was made in the blank report we sent them. In an article like this.

Carolina anticipated in one or two of the towns in which rates at the present time are very low. Nearly all mechanics are at presents in most of the towns reported. North Carolina seems to be enjoying a fair degree of prosperity. Higher wages are anticipated in Wilmington, which are at present reported below the average of other points of similar importance. South Carolina anticipates more building than last year in each of the 12 towns to which we addo but scanty justice to the vast array of facts and figures before us, much less acknowledge in detail the many pleasant letters which it has been our fortune to peruse in this connection on what are all-absorbing to rule throughout the season about as at We will commence with the extreme eastern portion of the country and travel as pondents throughout that State are somewhat rapidly over the several States and Territories as we can, and mention the most prominent facts reported by our correspondents.

Throughout the 58 towns in Maine to which we determ the several states and Territories as we can, and mention the most prominent facts reported by our correspondents.

Throughout the 58 towns in Maine to which we determ towns in Florida report a determinent of the control of the co comfortable condition in the building trades that wages are much the same as they were Mechanics are generally employed, and, with last year; that mechanics are fully emthe exception of St. Augustine and Cedar Keys, wages are expected to remain about as last year. These two places are at present remainder of the season are fair in almost all the localities. Several towns report greater activity than last year. Much the same condition prevails in New Hampshire, although two out of the 25 towns in that State report that less work is in prospect for the present season than existed a year ago. State report that less work is in prospect for the present season than existed a year ago at this time. Of the 34 towns in Vermont less work is reported to be in prospect in all other places from which we have reports about the same or even more work is anticipated for the remainder of the season than existed last year. Wages in both Vermont and New Hampshire remain the same as last year. Our report is very complete from the irreliance of the same of the same as last year. Our report is very complete from the irreliance of the season than called the same as last year. Mechanics at present are very general results and only the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. Mechanics at present are very general results and the same as last year. year. Our report is very complete from the could Bay State. Of the 150 towns in Massa-anticipated in every town from which we have heard than was done last year. the same as last year, with the exception of New Orleans are higher than in other towns Haverhill and Hudson, in which a slight in the State, and are nearly up to the general average paid in the larger cities. Our reports from 37 towns in Texas indicate are fully up to the average of the State.

The rates named for Boston are \$3.25 to behind in the race of material prosperity.

\$3.50 for stonemasons, \$3 to \$3.25 for bricklayers, \$2.50 for carpenters and painters, and \$3.25 for plasterers. Five towns only both Austin and Dallas. Rates are relatively that the Lone Star State is not being left behind in the race of material prosperity. in that great commonwealth report less work in prospect at the present time than a year ago. These, it may be remarked, are comparatively unimportant places, all the rest indicating fully as much business in store as the only town in which there appears to be

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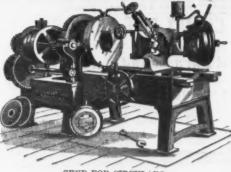


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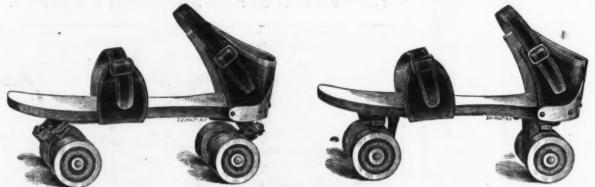
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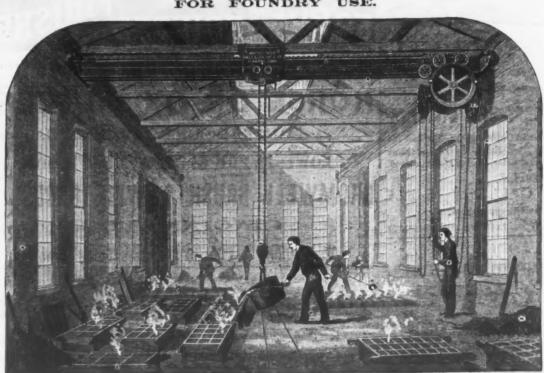
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this direction, as he reports many men idle at the present time. Pine Bluff anticipates a larger business than was done last year.

In the great Central Western States the mechanics in the building trades seem to thave a fair prospect for full employment throughout the season, with wages about the same as ruled at the close of last year. Of the 105 towns in Ohio, five report an upward tendency in rates, while only one indicates a dropping off. Our correspondents unite in the opinion that nearly all the mechanics in the building trades will have employment. the building trades will have employment throughout the season. Rates in Cincinnati in a few cases, and the prospects for work are very good. Building operations in Chi-cago have been embarassed by a strike. Me-

that the difficulty is about removed.

Among the towns of West Virginia it would seem, from the reports we have received, that mechanics are generally employed. Wages rule up to the average, and there is plenty of work in prospect. Of the 27 is plenty of work in prospect. Of the 27 towns in Kentucky it is reported that the same rates are likely to prevail for the bal-ance of the season as are now paid. Mechanics are fully employed, and there is an abundance of work in prospect. In Tennessee the same conditions exist. Memphis is pay-In Tennessee ing higher rates than the smaller towns, and anticipates continuing wages at about the present standard throughout the season. In most of the places in that State from which we have heard the prospects for a contin-uous business throughout the season are good.

The building trades are prosperous in the Peninsular State. Of the 74 town in Michigan very few report less work in prospect than was done last year. A few anticipate a slight advance in wayee and all of a slight advance in wayee and pate a slight advance in wages, and all of them report mechanics well employed at the present time. The building trades in Wisconsin are fairly active, with good prospects for the season. Milwaukee pays lower rates than some of the smaller places, and reports about 90 per cent. of her mechanics fully employed. Most of the towns anticipate fully as much trade this year as last. The same general of the towns anticipate fully as much trade this year as last. The same general conditions prevail in Iowa. Rates in some parts of that State rule higher than in those immediately east and south of it. Slight advances are anticipated in some directions. Nearly all mechanics are employed at the present time, and prospects generally are and control of the towns and great fortunes made by those who bought them in the era of low prices. The reaction from over-production has come. Prices have declined, until now, under the combined influence of heavy supply and restricted demand, they are as low as in 1877, while the elements of cost, represented by wages and control of the cost of the prices. immediately east and some directions. Advances are anticipated in some directions. Nearly all mechanics are employed at the present time, and prospects generally are promising. Rates in the 40 towns in Missouri to which we addressed circulars are somewhat higher in their general average than those ruling in the Central Western States. St. Louis, on the other hand, reports to the prospect of cheap coke. With other lower figures than some of the smaller price of coke, Pittsburgh can manufacture that city are as follows: Stonemasons, \$3.50; bricklayers, \$3.25; carpenters, \$2.75; painters, \$2.50, and plasterers, \$3.50. Our correspondent reports nearly all at present employed, and thinks rates will rule the same during the balance of the season.

Of the 21 towns in Minnesota very few report less work in prospect than was done last year. The majority of them anticipate an increase of business. Wages rule about the same as the general average of the section of which Minnesota is a part, and are likely to remain the same during the season. From Kansas our reports are somewhat conflicting. Some of the towns anticipate a larger business, while others will do less. Wages will probably remain at about present rates, which proposity remains a construction of the first proposition of the first the outlook is not the most favorable. While mechanics are fully employed, less work is reported in prospect from more than half of the towns from which we have heard than was done last year.

In the Territories occupying the central belt west of the Mississippi, wages, of course, rule at rates far above those paid in other commu-nities. Ogden City, Utah, for example, re-ports stonemasons, \$4; bricklayers, \$4; carports stonemasons, 4; bricaryers, 54; carcenters, \$3.50; painters, \$2.75; plasterers,
\$3.50, with an upward tendency. Mechanics
throughout that Territory seem to be fully
employed at the present time, and, with the
exception of Salt Lake City, all the towns
from which we have heard report more work
in propert than a year area. In Montane in prospect than a year ago. In Montana Territory wages are nearly 50 per cent. higher than those last quoted. Our correspondents, however, anticipate lower rates for the future. Mechanics are not very fully emritories, although very considerably above those of some of the other States. One town out of the 16 in that State anticipates higher rates, while 4 report less work in prospect than was done a year ago. At present about three-fourths of the mechanics are fully em-

Our replies from the States on the Pacific coast are unusually complete. Wages in Calijust as carefully on a car that weighs 80,000

pates even higher rates than these before the season is over. A large trade is in prospect, and every mechanic is at present employed. Our readers will perceive that this report of the building trades at the present time is painters and \$4 for plasterers. The general average throughout the State for carpenters is from \$2.25 to \$2.75 per day. Among the 61 towns in Indiana the same general conditions prevail. Rates in Indianapolis are about equal to the general average of the State. Several towns report a probability of higher wages before the same about equal to the general average of the St.te. Several towns report a probability of higher wages before the season is over, although the rates named as ruling at the present time are fully up to those of the section of which Indiana is a part. Mechanics are very generally employed throughout the State at the present time, and prospects of work for the remainder of the season are good. Among the 101 towns in Illinois to which we applied for information, the conditions are very much the same as those just reported for Indiana and Ohio. Mechanics at present are very generally employed. Wages rule firm, with an upward tendency in a few cases, and the prospects for work are very good. Building operations in Chicago have been embarassed by a strike. Me tures for both private and public purposes.
The building trades are at present perhaps more quiet in all respects than they have been before in several years past. Less talking is being done, less public notice is being directed to the property of the pr cago have been embarassed by a strike. Mechanics from the surrounding country, however, have gone to that city in such numbers that the difficulty is about removed.

Among the towns of West Virginia it was have recently a bound the sum of the surrounding country, however, have gone to that city in such numbers in many cases receiving about the same wages, although they average from 25 to 50 cents per day above them. Next in order cents per day above them. cents per day above them. Next in order are stone masons, there being a material advance between plasterers and this class. Highest in the list come the bricklayers, with wages averaging 50 per cent., in many cases, above those paid carpenters. These facts cannot fail to be of importance to those who have boys whom they anticipate apprenticing in the building trades. As wages rule at present, the bricklayer is king of them all. He has the most indepen-dent position about a building and receives the best wages.

> The Coke Trade.—"The position of the coke trade," says the Pittsburgh Dispatch, "affords another striking instance of reac-1878, the enlargement of the coke trade was the most remarkable feature of the expansion of business. Before the growth of the business was stimulated in 1878, the total number of ovens in the Connellsville region was about 3500. In five years the total has grown to over 10,000. Immense sums have been invested in coal lands, and great forprice of coke, Pittsburgh can manufacture iron almost as cheaply as Sheffleld, and probably the cheapening of our great manufacturing staple affords the surest method of reviving the sluggish consumption. But it is to be hoped that the coke trade may be regulated so as to place it upon a basis of moderate profits, and that the striking lesson it affords of the impolicy of excessive expansion may not be lost upon business men

Extension of Spanish American Trade. A desire to extend the commercial relations between Spain and the Spanish Republics of Central and South America has frequently found expression of late in the Spanish press. The subject is referred to in the last number of the Eco de las Aduanas, which gives the following statement of trade with

Spanish imports £-8 Chill 8,668	
Guatemala 255	5,003
Hondaras 255	
Honduras	1,678
Nic rag a	4
San Domingo 2,844	919
an Salvador	144
Darish Possessio s 9.786	84.744
Freuch Possessions 20,708	54.684
Dutch Possessions	7-131
English Possessions	65.724

"These figures," the editor thinks, "speak eloquently of the pressing need for develop-ing Spanish commerce with the Spanishspeaking countries of the New World," and the conclusion of treaties of commerce with those countries is warmly advocated.

In the last five or six years railway men appear to have entirely lost sight of the quesployed at the present time, and less work is appear to have entirely lost sight of the questin prospect than last year. In New Mexico about the same rates prevail, and trade is probably a little better than in the Territory last mentioned, although our correspondents are not very sanguine. In Dakota rates are not quite so high, and trade is reported better. In the State of Colorado rates are somewhat less than those ruling in the Territories although very considerably above. ness in regard to the weight of material going into car construction. Because it becomes necessary to increase the weight of a passenger or freight car by one-half, there is no valid reason for allowing useless weight to go into it and still further add to the total. Castings ought to be pared down and refornia rule from 25 to 33½ per cent. higher than the general average throughout Ohio, Indiana and Illinois. Our correspondents anticipate that nearly all mechanics in the building trades will have steady employment there should be no extravagance of material

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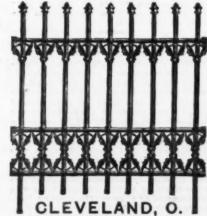
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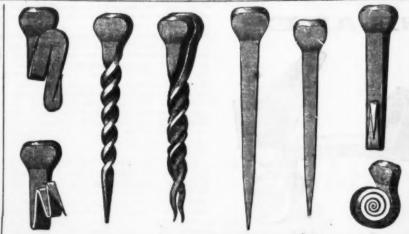
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sills, actually go to maintain the strength of the structure. It used to be said in old times that a carriage maker ought to serve a sort amount exported to the United States was of half-apprenticeship to a ship carpenter, in 3900 tons. As showing the downward tendorder to know how to build his work strong, and in these days it would seem that every master car builder ought to serve an apprenticeship with a carriage maker, in order to make things light as well as strong.

WASHINGTON LETTER.

(From Our Own Correspondent.)

WASHINGTON, D. C., June 23, 1883.

Assistant Secretary French, who is specially in charge of the arrangements neces sary to the execution of the new tariff law, has the machinery so well organized that no serious inconvenience is anticipated on July The officials here were at first apprehensive that a vast amount of embarrassment would grow out of the litigation which seemed almost inevitable between the importers and the Government. In relation to the transition from the old law to the new, the law says "that all imported goods, wares and merchandise which may be in the pub-lic stores or bonded warehouses on the day and year when this act shall go into effect shall be subjected to no other duty upon the entry thereof than if the same were imported respectively after that day." The nuestion was raised as to the application to cargoes at ports of entry and in transit from the vessel to the bonded warehouse—whether the duty should be rated under the old or the new law, or whether the rate should be divided according to the condition of the cargo at the hour of noon on July 1. In order to meet this emergency, the department has ruled "that all goods entered prior to July 1, whether they have reached the bonded warehouse or not, will be regarded as though they actually were in the public stores or bonded warehouses on that day." The duty therefore chargeable upon goods entered before July I will be under the new law, if in transit, as stated. The department is advised that some parties will object to this ruling where their interests are affected but generally the decision is approved as the simplest way out of a perplexing situation.

The old notion of the constitutionality of the law is also being agitated, and this question may come up in some of the litigation which must spring up under any circumstances.

THE TARIFF IN POLITICS.

The letters of Senstor Bayard, of Delaware, and ex-Senator McDonald, of Indiana, on the tariff are creating considerable comment here in political circles. The first impulse upon perusing the disquisitions of these erudite leaders of the Democratic party is that of novelty, if not of amusement. The ambidexterous handling of that perplexing problem, the tariff, is quite noticeable. Senproblem, the tariff, is quite noticeable. Sen-ator Bayard, who is unquestionably the ablest man in the Democratic camp, is perhaps the least impregnated with the poison of ultra free trade. McDonald has the notion of the same trade. McDonaid has the notion of the same subject so vehemently maintained by the Hoosier Democracy, and which was so emphatically overruled by the vote of the people in the campaign of 1880. It is now time for that 'rascible Senatorial Scot, Beck, of Kentucky, to fire off his long-promised screed in reply to the protection views of Senators. in reply to the protection views of Senators Sherman and Morrill. No doubt is enter-tained by the Democratic leaders who drop in here that free trade will be the distinctive issue of their party in the next campaign. This will account for the haste and volubility shown by the would-be Democratic nominees for the Presidency in defining their positions on this subject. The antagonism of positions as between the conservative or do-nothing-at-present policy of ex-Speaker Randall and that wing, and the ultra tarifffor-revenue represented by Carlisle, and, in fact, the mass of the party, is irrepressible, and one or the other will be driven to the wall before the question can be disposed of and submission and harmony secured. The intelligent minority of the party claim to advocate a sort of Jack-sonian so called constitutional tariff, which is claimed as judicious. This is recom-mended to the party as the theory now represented by Messrs. Bayard and Randall. More of the aspirants for Presidential honors will be heard from before the nomi-

THE SCOTCH IBON TRADE.

Among the reports received at the Department of State is a review of the Scotch iron trade, which indicates unusual activity for the past year. It appears that from the end of 1874 to the beginning of 1882 the stock of piz iron in Scotland increased from 96,000 to 940,000 tons, an amount nearly equal to the demand of the home and foreign markets for twelve months. Relying for relief upon a restricted production of about 12½ per cent. and an expectation of increase of business growing out of "the development of tiresome session. Arago thought he would cent. and an expectation of increase of business growing out of "the development of trade and of railway and other enterprises in the Unitel States," the effect of these in the Unitel States," the effect of these influences soon began to be felt. It is reported that the stock was reduced 104,000 tons during 1832. It was expected at the beginning of the present year that the demand would overtake the supply. The prices for Scotch pig iron are reported as ranging between \$12.68 in July and \$11.74 in December. The product for nine months in 1882 was 1,126,000 tons from an average of 108 farnaces, or about 200 tons per furnace a week. The amount for 1851 was 1,176,000 tons from 116 furnaces. The consumption of pig iron in Scotland in 1882 aggregated 930,000 tons, of which 585,000 tons were Scotch and 345,000 English. The shipments during the same year amounted to 645,000 tons, of which 146,513 tons were sent to the United States This was an increase of 39,747 tons in American shipments in 1881, but a decrease of 87,825 tons as compared with the year 1880. The product of malleable iron in 1882 worried, cleared away the mystery.

at any point except in members that, like the was 474,000 tons, an increase of 113,000 tons. It is claimed that the exports of this iron have not increased proportionately. The amount exported to the United States was ency of prices, the report states that they were low, and profits were decidedly less than they were a few years ago, but cheap labor and further reductions in the cost of raw material brought the cost of production down to a minimum point.

FREE TRADERS OBGANIZING.

The national conference of advocates of free trade, held at Detroit about 10 days ago, is looked upon here as a very significant note of warning to the friends of American industry and labor. The proceedings indicated not only a spirit antagonistic to protective legislation, but insisted upon corrective action of the friends of free trade in the Forty-eighth Congress. The best evidence of the determined reprocess of best evidence of the determined purpose of this movement is shown by the character of the men who were elected to the offices of the concern. David A. Wells, of Con-necticut, was chosen president, and at the head of the vice-presidents is W. H. Spencer, of Illinois, Democratic aspirant for Speaker of the next House of Representatives. Among the other vice-presidents is Frank H. Hurd, of Ohio, Representative in the next Congress, and the man who rejoiced that he was elected for the opportunity it gave him to knife the iron industries. Charles Francis knife the iron industries. Charles Francis Adams appears also as a shining light in this galaxy. William H. Smith, of Iowa, who fires the Granger heart, and eight or ten greater or lesser lights, adorn this platoon of agitators. The significance of these early efforts of the free traders is looked upon here as of sufficient importance to marit the attacking of manufacturers and to merit the attention of manufacturers and workmen, with a view to counter organization and efficient work.

A New Time System.

New Haven, we are informed, now has a new time system which is giving most satisfactory results. Various attempts have been made abroad and in this country to arrange systems of clocks to keep uniform time, but most of these system have been a series of electrical clocks or electric dials which have been driven by an electric current, making a jump every second. All these systems, which work nicely in a room, and with a fair degree of success when the clocks are distributed in different portions of one building, have been found, when applied to outdoor wires, subject to the varying outdoor condi-tions, practical failures. The principal dif-ficulty has been that a single break would throw one or more clocks radically out of time. Another system, developed to a considerable extent in Paris, is known as the pneumatic system. This, although much less liable to interruption than that of electricity, is such that any interruption causes the clocks to stop, Hitherto all systems have run from a clock at one station. The system which the Standard Time Co. have now introduced at New Haven has worked very suc-cessfully for years in London. The clocks used are good time-pieces, with the motive power furnished by springs or weights. They run independently of the electric current. The office of the current is to give once an hour, or less frequently if desired, a signal, which sets every clock at the same time. The signals are always sent out at the even hours, and the clocks are set by bringng the minute hands to the XII point. The New Haven system, just open, and having some 15 or 20 clocks in circuit, has the advantage over any system ever before attempted in this country of having the most accurate observatory time. The signals are not given simply from a good clock kept as nearly right as possible, but are accurately given from an astronomical clock at the Yale Observatory, the monthly variation of which is but a fraction of a second. As the system is now arranged, two or three different patterns of clocks are furnished with synchro-nixers attached—a clock to be bought and become the property of the purchaser, who has nothing further to do in the matter. The clock is hung on the wall, and for a yearly rental the clock is wound and kept right, and it is attended to, when needing repairs, at the lowest rates. Whoever has one of these clocks will receive signals twenty-four times a day a fee days in the year. The sixtimes a day, 365 days in the year gist of the whole thing hangs on the assumed doctrine that the Constitution is not authority for any other tariff than one for wires. The time given is the time of the revenue only. Judging from present indistate, coming from the clock which gives cations, the people will have a constitutional signals to all the railroads, under the stateas well as an economic question to dispose of in the campaign of 1884. In the mean-time the tariff will be very thoroughly ventor exist. A noteworthy fact is that New Haven is the first town on this side of the Atlantic—and, in fact, the only town in the world except London—to peases this facility. New York depends on time-balls and unreliable electric dials. Boston is in the same condition. Chicago has no reliable time, and people there are governed, according to business, by one of half a dozen standards. New Orleans is in the same condition, and Philadelphia is not situated much better.

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The Condition of Our Blast Furnaces on June 1.

off" in five months, but it is by no means so that "50 furnaces have recently blown out in Eastern Pennsylvania," whereas the truth is that since the 1st of January, only six have blown out in the Lehigh Valley, Upper Susquehanna Valley and none in the Lower Susquehanna Valley, making 15 furnaces in all-of course, not counting charcoal furnaces, among which we believe no sweeping change was made. In the whole Northsastern section of the country, comprising New England, New York, New Jersey and Pennsylvania, the total number of furnaces of all kinds blown out was 34.

It may be possible that the recent action of prominent pig-iron manufacturers in reduc ing the price of pig iron will have the effect of causing some to blow out their furnaces who would otherwise have held on for a while in the hope that prices would soon improve, especially as it is stated that there are quite a number of furnaces which are kept running only to use up their stock. Sixty days may see many more furnaces idle than are standing now. It is very likely that among the furnaces reported as having been blown out since the 1st of January, there are quite a number which have been obliged to do so for the purpose of repairing, and will be blown in again when those repairs shall have been completed. This is a emark which will apply to special localities, nore particularly the South and West. If allowance be made for such furnaces, the total number blown out since the 1st of January to be kept out may be only about 50.

The capacity of the furnaces in blast on the ast of June is not given, and we therefore lack that element of comparison in arriving at the true condition of the furnaces at the two periods mentioned; but the new furnaces which have been blown in in Virginia and Alabama since the 1st of January will counterbalance many more than their number of Northern furnaces which have been blown out. The new furnaces referred to are located at Milnes, Goshen and Roanoke, in Virginia, and at Birmingham and Gadsden, in Alabama. At Birmingham two new furnaces were blown in, the Sloss No. 2 and the Mary Pratt. The latter was built to use charcoal, and was blown in on that fuel, but now uses coke. The Coosa Furnace, at Gadsden, uses charcoal. All the other new furnaces referred to use coke, and are car able of producing large quantities of pig iron. A new charcoal furnace has been blown in at Newberry, Mich., but it will not fill the gap caused by the burning last month of the Jackson Furnaces at Favette and the Otis Furnace at Mancelona, in that State. A new charcoal furnace has also been blown in in Washington Territory, but it simply takes the place of the furnace built there a couple of years ago, and run for a short blast to try the ores.

A significant part of the statement of the ondition of the blast furnaces on June I is the reference to furnaces which are to be put out of blast soon. Of these there are 27, nearly all of which are either anthracite or bituminous. Some will only be blown out for repairs, but many will evidently be blown out to stand for a while at least. We presume, too, that there may be other furnace owners who intend to blow out before many weeks pass by if the iron trade does not improve, but who hesitate to express their ntentions. In the meantime let no one h under the delusion that the many furnaces out of blast in the northeastern part of the country indicate that henceforth pig iron will only be made there in small quantities, and that more favored districts will win the trade of that section. The very fact that there are many idle furnaces there will enable the furnaces which do run to purchase their ore and other materials more cheaply In consequence of the decreased demand the price of ore has already fallen considerably at the furnaces in the section referred to. Ore will be mined, and men will be found to mine it, even if the price received for it will only permit the payment of very small wages to the miners. The compensating benefit will be that many of the local furnaces will then be able to hold their own against outside competition, and thus prevent the withdrawal from that district of large sums of money to pay furnacemen elsewhere for pig iron to supply their local foundries and rolling mills. It is almost as unfortunate for an iron-consuming district of this country to send its money to a distant section for iron as it would be for the nation to send its money Thirty-second Page .- New York Wholesale abroad for the purchase of that commodity.

Recurring to the main question, we give Thirty-third Page. New York Wholesale below a table showing the condition of the Thirty fourth Page .- New York Wholesale blast furnaces of the country on the 1st of June, as compared with the 1st of January,

assined accord	ung vo	the It	ier naed	-
Fuel used.	Jah. I.	June 1.	Jan. 1.	
ithracite		137	64	86
идипочв		3.9	84	105
iarcoal	129	105	123	146
	-	-		1000
Total	437	358	279	337

After Signing the Scale-What?

There can be no doubt that the action of The American Iron and Steel Association the iron manufacturers in signing the scale have just issued a statement of the number of of wages at Pittsburgh for another year had that it is by no means close. For instance, furnaces in blast in the United States on the a very marked and favorable effect upon the 1st of June. It appears that there were then general market, and has been received 351 furnaces in blast out of a total number throughout the country as a good omen, notof 688 furnaces. Since the 1st of January, withstanding the fact that it was believed 66 furnaces have been blown out. This is a that only a suspension of work in the iron considerable number of furnaces to be "laid mills could put the iron market on a firm basis. The action of the manufacturers has large a number as the sensational reports in relieved the country of the depressing specthe daily papers of the past few weeks have tacle of the idleness of thousands of persons, indicated. One paper in particular said with all that idleness means in suffering and decrease in purchasing power. The storekeepers of every kind throughout the dis trict are rejoicing in prospect of greater sales, and consequently purchase eight in the Schuylkill Valley, one in the freely than they would had the strike been in progress. Even in Wall street stocks show more than their usual strength, and it is reported that the news went through Wall street like wildfire, accompanied by a sigh of relief at the prospect of no strike. The strike has been averted and the gen-

> eral bus ness of the country relieved from the weight of depression that would have rested upon it had the contest been inaugurated and prolonged, as it promised to be. But how about the weight of depression hanging ever the iron trade itself? It must be remembered that the conditions upon which the reduction of wages was demanded -low prices, overproduction, the tariff trouble, and the pressure of steel into the iron markets-remain unchanged, and must be met in some way. Certainly the present prices raling in all iron products do not justify a continuance of the wages that were paid a year ago; in fact, they demand not only a reduction in the cost of product in all expected. Even under existing conditions of its elements, but a curtailment in the amount of production. There was no lack of iron last year, notwithstanding the strike. The si owing made in our editorial last week as to the relative production in the East and West in 882 tells plainly that if the present rate of production continues, and Pittsburgh makes the amount of iron that she could likely to make fuel cheaper than in New have made last year but for the strike, there promises to be a glut in the market such as has not been seen for years. Many pig iron men have wisely seen this coming overproduction, and have taken the sensible shall witness an important development of course of blowing out their furnaces at a time when their resources are such that borhood. they can do it without crippling themselves. They have not waited until stoppage of production would be impossible without absolute bankruptcy. It seems inevitable, therefore. that before the first day of another June comes round there must be a curtailment of production in the iron mills of the country. The question is how that curtailment shall come about. In the present state of feeling both East end West there seems to be but one solution, and that is that the weaker must go to the wall. The signing of the scale is only a postponement of the inevi- quence, no important sales have transpired table day. We do not mean to indicate that it is the deliberate intention of any mill or any number of mills to force the weaker before the middle of next month. Meanones out of business; indeed, we know that it is not the desire of the stronger mills that may run low this month, and the new camthis should come about. The stopping of a laign in July will thus be inaugurated with mill, the bankruptcy of its proprietors, does a remarkably sound condition of the market. not take the mill out of existence. The mill There is no article in the metal trade that still remains to be purchased by some one we know of which, though the supply of it with capital, and often no knowledge of from abroad has been uninterruptedly and business, and it will continue to run in rapidly on the increase, has been so readily competition with the stronger mills, the absorbed with so little fluctuation in price as competition being much sharper. They has been the case with this one. One of would greatly prefer that a conservative the principal men in the metal trade very course should be taken, which should avoid correctly remarked the other day that, the inevitable if possible, but this does not seem expedient, and it appears as if the sit-

The conditions and course of trade in the next few months, in view of these facts, will be watched in the iron business with great interest. It is possible that the evil day sugrested may not come during labor year if we have good crops and no the same time during the previous one by over-speculation, but with short crops and a about 10 per cent., the consumptive requiretendency to speculation the outlook for the future would be by no means reassuring.

Iron Making in the Hudson River Valley.

The address of Mr. Robert W. Hunt, president of the American Institute of Mining Engineen, which is embodied in our re port of the Vi. ginia meeting of the Institute, elses hare printed, will be found extremely suggestive-more so, perhaps, than the casual reader would be likely to discover. To understand its full significance, one needs to read between the lines, and remember that and steel interests in New York, and that than they were early in May. what he wrote was intended for an audience commiseration their less fortunate competitors of New York and Pennsylvania. Mr Hunt is much too considerate of the feelin a of such a company to express a doubt as to ern advantages, but his modest suggestion and the entire canning trade, measured by hope still exists for some of us," may really be understood to mean that with such ad-River cities, there is no reason why coming up to expectations. they should feel in the least envious of

Mr. Hunt is demonstrably right, Those who will analyze the items which make up \$1 per ton for repairs is certainly an outside figure, and 50 cents per ton for oil and tools is also high. It is also probable that the fuel item can be somewhat reduced by the substitution of Blossburg coke for anthracite, with an incidental saving in running expenses owing to smoother and easier working But however wide or narrow the margin of possible economy, it will be admitted that \$15 pig iron is easily possible on the Hudson, and that if made from the Hudson River and Chateaugay mixture it will be iron of very superior quality. It must also be remembered that iron made in the Hudson River Valley is already in market and does not entail two or three dollars per ton additional freights upon the consumer

What Mr. Hunt was probably restrained by considerations of modesty from saying in his address may with eminent propriety be said in the columns of a newspaper his opinion, but as that of the Editor, It is in the power of the owners of the ore properties which find the natural outlet for their product through the Hudson River Valley, to make that valley the seat of a vast, profitable and permanent iron production. Those engaged in their development undoubt-edly have this object in view. With a wealth of resources which need not be conserved for centuries to come, they have wisely decided upon an output as large as the market calls for, at prices which will encourage consumption, and at which iron makers can meet any market which in the present state of the iron business at home and abroad need be of coal supply, we know of no locality in which capital can be invested in iron making with greater certainty of profit than along the shores of New York Bay or the Hudson River. But the fuel question admits of other solutions than have yet been reached, and at no point is the competition of producers York. Granting all that can be claimed for other sections, New York has peculiar advantages, and these are great enough to make it certain that within the next few years we this industry on tidewater in this neigh-

Developments in the Tin-Plate Market.

In view of the reduction in duty which takes place after the 1st of July, importers have of late brought forward but little stock. only sufficient, indeed, to meet the moderate requirements of the local trade from week to week, while large consumers are likewise keeping their supplies low, in order to reap the advantage of the lower duty. In conseduring the past four or five weeks, and fresh importations are not likely to be resumed while, the supply of some kinds of tin plates although everything has so far this year at times appeared as dull as it possibly could uation must submit itself to the logic of be, tin plates have moved off all along with the utmost steadiness, to a fair extent, without provoking much comment, and without being singled out as an exception. The inference to be drawn therefrom is that, although our import has during the first nine months of the fiscal year been in excess of ments of the country have been fully able to cope with such increase, as the following

· IMPORT OF	TIN PLATES.	
(First nine mont	hs of fiscal y	rear.)
Import Re-export	Cwt	Value, \$13,046,932 48,436
Net import	3,178,200	\$12,998,496
Import	Cwt.	Value, \$11,985,464 37,044
Net import	2,878,754	\$11.948,420
Thus, while everythic trade has tended down		

Mr. Hunt is identified with important iron kept steady, and are even slightly higher

Although our spring on the Atlantic seacomposed in part, at least, of ironmasters board and in the interior has been cool and and ore miners of the South, whose faith in late, an ample rainfall and subsequent seathe facilities at their command for cheap sonable weather have rendered the season iron production causes them to regard with propitious to fruit and vegetables, as a whole, so that the canning trade in both these lines will not fall short of what it was last year-if, indeed, it is not larger. The past season, as compared with the prethe vast superiority of Southern over North- vious one, which was poor, made amends, that with \$15 pig iron "it would seem as if what the country experted, has been very prosperous, and nothing but the continued high prices of provisions and lard and an vantages as are now at the command of the increase in the price of petroleum can pre-

anybody's resources. In this view we think | tinware and canned goods during the first

nine months of the fiscal	year:	
	x883.	188s.
Blacking	\$1 .8,080	\$136,554
Maizena and farina	686,686	541,765
Prepared groceries	68,780	64,244
Linseed oil	24.783	29,849
Gunpowder	365,625	830,061
Paints	339,353	297,594
Condensed milk	132,639	145.518
Preserved meats	3.842,549	3,604,782
Oysters	472.045	482,986
Preserved vegetables	98,320	₹35,664
Spirits of turpentine	3,081,037	2,525,610
Tinware	138,750	125,902
Varnish	138,603	142.021
Smoked flsh	649,558	469,334
Total	10,100,800	\$8,932,810

It is true the amount of tin plates conumed for building purposes may fall off a little this year, though the very full report of the building trade, which appears in another part of this issue, shows a continued activity in that department of industry. In any case this will not materially affect the consumption, and the prospect for tin plates may be considered satisfactory.

Cheap Ships vs. Good Ships.

Those who have ventured to assert that any advantage which could be claimed for British over American ships in the matter of cheapness in first cost was more than offset by the difference in quality in favor of American ships, have usually been soundly berated by the advocates of free ships and by British newspaper writers; but occasionally English authorities are moved to speak on this subject with a frankness which is quite surprising. For example, the London Ma-

rine Register says: The incapability of many of our highly-classed The incapability of many of our highly-classed ahips to weather moderate gales an istorms with out foundering is at last attracting public attention. Owing to bad work in the construction of their hulls or machinery, to overloadiag, to bad stowage, resulting in the shifting of cargo, or to collisions, large numbers of vessels annually founder in mid-ocean. When such a disaster as this occurs, the crew and passengers are compelled to trust to the ablu's hoats to convey them to a place. trust to the ship's boats to convey them to a place of a fetty. As the disast r of foundering from one of the above-named causes appears to be on the increase, the seafarer and the public who travel by water, knowing how often the ship's boats have by water, anothing downter the amp a contained to be resorted to for the purpose of weathering out a storm, which a large ship fails to do, would only too gladly hail any invention or improvement in the form of a boat which would provide additional protection and preservation to human life.

The principal of the several causes of loss of ships above noted is undoubtedly bad materials and bad workmanship. If it were possible, with the best English materials obtainable, to build an iron ship to specifications which any American builder would accept with pleasure-which is doubtfulit would cost more per ton than an American ship of equal size. Nature has given us good materials, and protection good labor. All we lack in the way of experience is how to build ships which will look well and yet be unseaworthy British shipbuilders know this, and it is something which we hope ours will never have a chance to learn.

Finance in Canada.

The annual statement of the Bank of Montreal, which wields a capital of some \$43,000,000, with a "rest" approaching \$6,000,000, is of late years awaited with special interest throughout the Provinces as a sort of financial barometer. Increased significance is derived from the accompanying verbal statements of the president and associates in the institution, whom we may assume to be gentlemen of more than ordinary business acumen. The observations of the president, C. F. Smithers, volunteered one year ago, contained scm reference to "a cloud in the financial horizon," together with suggestions respecting a tendency to overproduction and excessive importations. There is no reason, it is intimated at this later date, for a change of conviction on these subjects. President Smithers would not call in question the "brave language" of the annual report of the New York Chamber of Commerce, made public a few days ago, wherein it is said "we fail to discover cloud of menace," &c., but it is found difficult, on the part of Canadian financiers, to reconcile expressions of this character with the condition of the iron trade and excessive number of mercantile failures, to say nothing of doubts respecting the crops. Assuming this hopeful view to be correct, the president adds, respecting the United States: I can only say that it is a most highly favored

ntry, and I doubt whether as much can be said of any other country in the world. I am quite sure that it is not true of England, where they have suffered from a series of bad harvests, where the Bank of England reserve is at the lowes point touched for years, and the supply of metals gradually on the decline. But now we come to this country, in which we are more immediately interested. Can it be said of this latitude? Would that I could adopt this language in relation to Canada, in the full confidence that I was justi fied in doing so; but, in the exercise of the most sanguine view of the outlook, I dare not go so far. I am afraid I should be regarded as a very unsafe counselor if I did. I fully understand that I am not speaking merely to those here pro but that what I say to-day will be read all over the country, and fully realizing the responsibility that rests upon me, I repeat that I dare not adopt the language of the New York Chamber of Commerce in speaking of this country. Reverting to the situation in Canada, busi-

ness since last winter has been extremely dull. According to our informants above quoted, heavy loads of unseasonable goods have been carried over by the mercantile classes, and Manitoba has been a disappointment. As stated by President Smithers, There is no denying that things have met with a decided check in the Northwest. iron makers of Troy and other Hudson vent the canning trade this year from fully On the other hand, there is a prevailing spirit of conservatism, which is an omen of The following table shows the export of better things, and the tendency to inflation

\$8,0 peri inte

ordi

owing to the recent successful placing of bonds, and from this date will make much more vigorous progress toward spanning The rails are already laid the continent. 600 miles west of Winnipeg.

While it is possible the Montreal bankers, who disclaim being either "croakers" or 'alarmists." may have drawn their picture in too somber colors, their evident design is to check the tendency toward dangerous expansion within the territories of British America, and their admonition must prove salutary, irrespective of the increased immigration and revival of business, which, according to the latest mail accounts, "bids " fair to be as profitable as that of last " year." Within certain limits, the suggestions ventured are applicable to this side of the St. Lawrence boundary.

Steamship Dimensions.

The accident to the steamer City of Rome which ran aground near Sandy Hook last Saturday when leaving this port, has revived the controversy among engineers and navigators respecting the extreme limit in the dimensions and draft of sea-going steamers, A number of our foremost commanders have recently expressed their views on this subject, and seem to be almost unanimous in the belief that, in the future, steamers larger than the City of Rome will seldom be built Captain Hawley, the commander of this vessel, says that at the time she grounded, her mean draft was 261/2 feet, but she will draw 30 feet of water when loaded to the Plimsoll line. It is well known that among the owners and managers of the Cunard line serious differences have recently sprung up respecting the proper dimensions for steamers in the Atlantic trade, some leading minds claiming that the company in their policy are too conservative, thus enabling their rivals to gain an undue advantage. Captain Currier, representing this company in a recent interview, said that the old rule for making steamships was to build them eight times the length of their breadth, but this method had been departed from. The City of Rome is twelve times as long as she is wide He thought the limit of large steamships had been reached. The new Aurania, which the Cunard Company are building, is to be in length only a little more than eight times her What is lost in depth is said to be gained in breadth in ships like this.

Among the various opinions elicited were those of Captain Badenhausen, of the Hamburg line, who thinks that when a ship is 500 feet long she is long enough, and that hereafter this will be the limit. He said it was impossible to steer a large vessel well with only 2 or 3 feet of water under her keel. Captains Benyon and Jackson, of the Red Star line, entertain similar views, contending that moderate-sized ships will pay best in the long run. The superintendent of the White Star line says that these extra large craft are not desirable, because of the difficulty of using them with economy. Steam ers of the other lines-the State line, the French line, and the Rotterdam line-never load beyond a draft of 24 to 26 feet, and have no difficulty in the depth of water. It is evident that the draft of ocean steamers has nearly reached the extreme limit, at least as regards the capacity of nearly all our principal seaports; for it is absurd to conclude that steamship lines will change their terminus from New York to Portland. or any other point where harbors have deeper channel, so long as the old routes possess other advantages of paramount importance, such as celerity in transporting passengers and facilities for distributing goods in the interior and securing return Moreover the limit as to in fuel and other expenses of navigation has been tested in all conceivable conditions, and the liability to disastrous collisions or running aground are factors inseparable from the general problem which culminates in the superlative question of net profits. mathematical demonstration touching all the intricate points involved being hardly possible, it is at least satisfactory to know that the rage for big ocean steamers has experienced a check. So far as passengers are concerned, it is fair to presume that they will select smaller vessels when they under stand thoroughly that larger vessels, on account of their depth, may get stuck on a sand bank in the harbor and cause vexatious delays, with an element of danger under certain conditions.

Only one month remains of the current scal year. An official statement of the fiscal year. fiscal year. An official statement of the Government's receipts and expenditures for the 11 months that have passed is almost as useful as a basis for comparisons as the annual statement that will be prepared 30 days hence. This statement shows that our receipts have fallen off and our expenses have ceipts have fatten off and our expenses have increased, notwiths anding a large reduction of interest charges. The decrease in receipts for the II months, as compared with the receipts for the corresponding period of the previous year, is about \$7,000,000, caused by a loss of customs revenue amounting to \$10,000,000, part of which is offset by gains the internal revenue and miscellaneous visions. The expenditures have already divisions. exceeded \$250,000,000, and are greater by \$8,000,000 than the expenses of the same period in the previous year, although the interest payments have fallen from \$68,000,000 to \$56,000,000 for the II months. The

has been in a large measure arrested. That | 000, but in the three months of March great national work, the Canadian Pacific April and May they amounted to \$30,000,000, the payments in the month just ended having been nearly \$12,250,000. The year's receipts will probably fall \$2,000,000 or \$3,000,000 below the round sum of \$400,000, 000, and the year's expenses will be some thing less than \$275,000,000.

Limitations of Speculation on the New York Metal Exchange.

We have the following letter from Mr. E J. Shriver, secretary of the New York Metal Exchange. Concerning the same, we think it only fair to say that Mr. Shriver's point is well taken, and it is probable that the scope of his official admissions respecting the neaning of the vote of June 4 was unintentionally enlarged by us, as the result of conversations with other gentlemen some-what less guarded in their comments. However, we do not think that Mr. Shriver expressed himself in conversation quite his letter conveys his meaning better than his words did, it is a great pleasure to afford him space for its publication:

New York METAL EXCHANGE, BURLING SLIP AND PEARL STREET, New York, June 9, 1883.

To the Editor of The Iron Age .- DEAR SIR: Allow me to make a correction of one portion of the editorial on the "Metal Exchange Election," in your issue of the 7th inst.—that referring to my interpretation of the meaning of the vote—where you make a mistake that was doubtless owing to an imperfect recollection of our conversation.
What I did say was that the issue having been clearly drawn by Mr. Cook and Mr. White at the meeting before the polls were opened, the result pledged the exchange to the principle of maintaining a daily call, and of throwing safeguards around so called "legitimate," as well as "speculative," transactions by a system of margins, which system will unquestionably increase the speculation that has always characterized so largely the metal trades, while in a measure changing its character, but, as the experience of other exchanges has shown, greatly for the better. There was no mention be-tween us of "puts," "calls" or "straddles," which are forms of contract entirely dis-tinct from such a system, and are not, indeed, protected by margins at all. As a journalist, you surely must know that these privileges" are not recognized on any of an exchanges where speculation, pure and simple, is a main feature, while the rules of the New York Stock Exchange absolutely prohibit dealings in them on the floor, the "put and call" brokers usually not being nbers of the exchange.

I trust that in justice to the Metal Exchange, as well as myself, you will give this correction the same prominence as your own statement of my remarks.

Very truly yours, EDWARD J. SHRIVER

Novel Means of Propelling a Screw Steamer.—The Scotch iron steamship Ardanrigh, of Glasgow, arrived at Philadelphia from Fernandina, Fla., under gather peculiar circumstances and with unique powers of propulsion. The Ardanrigh is a large freight steamer, brigantine rigged and was on her maiden trip. Her cargo was a "picked-up" one, consisting chiefly of cotton consigned to order of importers in Cork, Ireland, and Falmouth, England. After leaving Fernandina, the Ardanrigh steamed toward her destination, but when but 150 miles on her course her propeller blades broke, rendering her motive power useless. All sail was ordered out, but, there being little or no wind, no headway was The captain, a Scotchman, served made. at one time as mate on a Yankee vessel, and it may have been there that he acquired his inventive powers, for his necessity give birth to another invention by which the Ardanrigh was transformed into a sidewheel steamship The captain says that by drilling holes in her iron walls, just above her forward deck, he made openings for a wooden shaft con-structed of hoisting spars; at either end paddles of heavy plank were fastened. The donkey engine and winch were brought into play, and by the use of bands and cogels fastened to the machinery the shaft revolved, the paddles whirled around way she passed Hatteras and reached Hampton Roads, Va., where she anchored for a few days, and on May 23 again started on her journey and reached the Breakwater on May 30 and was towed up the river.

Metal Exchange Committees.—At a meeting of the Board of Managers of the New York Metal Exchange, held last Thursday, the following committees were appointed: Executive, Theo. Sturges, B. F. Judson, H. B. Moore. Finance, John C. Cook, Joshua Hendricks, J. T. De Blois. Law, E. P. White, A. G. A. Harnickell, Theo. Sturges. Floor, E. J. Shriver, W. P. Tilton, D. Houston. Warehouse, Elliott F. Driggs. E. S. Wheeler, J. F. Pierson, T. D. Hazard, L. Hernsheim. Trade, J. J. Williams, Carl Mayer, Wm. Houston, H. P. Egleston, H. J. Lamarche. Complaint, John C. Cook, F. Dickerson, Joshua Hendricks. The board ordered a meeting of the Exchange to be called for June 18 to name a price for the admission of new members. The present admission of new members. The present membership is 260, and it was proposed to charge \$150 initiation fee for 40 more, and \$250 for the next 100; but the weight of opinion among the managers was in favor of nited number from the metal trade exclusively at \$100 each.

At the annual meeting of the Colorado Coal and Iron Co. the following were elected directors for the ensuing year: William J. Palmer, C. F. Woerishoffer, W. H. Hays, August Rütten, John Scott, Henry Amy, D. C. Dodge, R. H. Lamborn, and H. H. Danford. The annual report shows: Gress earnings, \$4,175,313; operating expenses, \$3,-905,736, and net earnings, \$500,577. The interest charges were \$163,403, and premiums, discounts, bankers' commissions, and oco to \$56,000,000 for the 11 months. The office ordinary expenses have been greater, however, by \$12,000,000. The ments have been greater by \$8,000,000. The multiple office ordinary expenses have been greater by \$8,000,000. The sundry old accounts charged to profit and payments on account of pensions in the first eight months of the year were only \$35,000,

THE AMERICAN INSTITUTE OF MINING ENGINEERS.

MEETING AT ROANOKE, VIRGINIA.

The announcement made by the secretary of the Institute some time since that the summer meeting would be held at Roanoke, Va., undoubtedly met with almost universal approval, and for weeks past the event was looked forward to with the keenest interest and the most pleasant anticipations. credit of the various committees, be it said, the expectations of the numerous attendmembers and ladies were fully realized, and the Roanoke meeting will long be a source of pleasant recollections. It was but natural to expect that the picturesque beauty of the place, the many points of interest in the vicinity, and the excellently-arranged programme, would attract a large number of visitors, and estimates as to the attendance

based on these circumstances did not fall wide of the mark. In fact, even the first session of the Institute, held at the Roanoke Hotel on the evening of June A, was well attended, and many other members were still expected. Addresses of welcome were made by Austin, chairman of the Citizens' Committee, Mr. Lucien H. Cocke, Mayor of Roanoke, and Maj. S. Griffin, which were ably responded to by President R. W. Hunt, who then delivered the following inaugural

PRESIDENT HUNT'S ADDRESS.

Upon assuming the duties of the high position to which you have elected me, I beg to thank you most sincerely for the honor conferred. To be the officer of your society is a gratifying distinction, but entering upon that office as the successor of the able gentlemen who have preceded me renders me diffident as to the results of the ensuing term. But believing your hearts, rather than your cooler judgments, were consulted in making your selec-tion, I, in self-defense, now rely upon them for forbearing criticisms where weak, and warm support where strong and right. Connected as most of us are with the active industries of the country, we are called upon to encounter, not only engineering problems, but commercial ones as well. In fact, the but commercial ones as well. In fact, the two are so intimately associated that the success of one is the triumph of both for while engineering difficulties may be overcome, if the result is not a commercial success the world refuses to grant praise, and certainly withholds substantial rewards. I presume never since the organization of this Institute has the metallurgical engineer been called upon to meet a more embarrassing condition affairs than at the present time. have been through panics, through periods of depression and times of inflation, but just now, owing to the legislative status, an new element enters into

After the warm words of graceful welcon to which we have just listened, with the certainty of having displayed to us, during the next few days of our visit to their store house of nature's treasures, such boundles mineral and agricultural wealth, made avail-ably by intelligent enterprise and industry, it is next to impossible to realize the exist ence of aught but untrammeled prosperity Eight years ago the President of this Insti tute, in his address at the Cleveland meet ing, presented, as he so well could, and in clearest, most forcible manner, the ne-sity for a general adoption of better methods, more economical machinery and saving appliances in all branches of manufacture. His warning words were uttered at a time when the business outlook was much the same as now. During the years which have lapsed since then many steps have been taken in the right direction. But a period of great prosperity—at least of great activity—came upon us. Nature's refreshactivity—came upon us. Nature's refresh-ing rains and glowing sunshine made our fertile plains rich with golden harvests. Thousands from foreign shores came to us, seeking new homes in our God-blessed land. There has been work for all, plenty for all demand for everything. The result was feverish state of drive. Did the blast fur nace have a daily output of 60 tons, alter the lines, put up new stoves, another engine, force it, blow it—better still, build another expected to make 1500 tons of ingots per week. Put on three sets of hands, let the week of production begin on Sunday afternoon; the week of labor never end, and then, not be content with a weekly yield of 3000 tons. This has been the hotblooded life of the past few years; but following it have we not sometimes neelected two seconomy. neglected true economy? If not, there well. But whether yes or no, the time is now here when we must have cheapness of production as well as quantity. I take it, no matter what may be our views on the subject of protection, the supreme duty of every engineer is to aim at placing our industries en tirely independent of the whole subject. As easy statement to make—not so easy of ac complishment. But our duty remains the same. How can it be done? Most emphatically, not by placing American labor on th same basis as foreign; not by employing women and children to perform the work not of men alone, but that of beasts of bur den; not by giving our workers hovels in stead of homes; not by depriving them of wholesome diet; not by rendering education and advancement all but impossible; not by breaking down the barriers of morality; not by making the united efforts of a skilled man, and his equally skilled wife and daughter, cap-able of yielding but \$5.13 per week! I am proud to believe the reduction of labor to this point would require a plant for the construc-tion of which the average engineering mind i incapable. Unfortunately, when pinching es afflict us, when the necessities of cur tailment of costs arise, we at once attack the wages problem as the certain and only way of salvation. That point of reduction of cost is so easily reached. Understand me, I do not mean that labor should not bear

facture, and your aggregate is the same, and that reduction in cost remains permanent. By the difference between an unintelligent, careless and indifferent use of the non-producing supplies in one engine and its train of rolls, and a conscientious effort at econ an actual saving of \$100 per month has been possible. This is not a fortune; but if you have, say, 40 engines and 13 trains of rolls, it merits respectful consideration. Better let that master mechanic's wages remain at a fair standard, and have him save for you, than to take from him and let another for you. Hence, I argue that the first duty is seeking after better methods, then a rigid and economical administration, and then a revision of the whole labor question.

I think my statements as to not favorng a descent to the level of foreign labor have been sufficiently strong; but, at the same time, I claim that the relative pay of our workers is not properly balanced. The machinists, the pattern makers, the carpenters, the mechanics, of America have to erve an apprenticeship of from three to four years, receiving during that time not more than enough to pay their board. After learning their trades, they cannot hope to earn more than—and, in fact, are satisfied with-\$2.25 to \$3 per day, the latter being skillful workmen, \$2.50 out the average. Should for exceptionally skillful workmen, \$2.50 per day being about the average. Should these men develop sufficient talent, they may become foremen, at, say, \$100 per month. Their employment demands physical skill, patient toil, frequently fearless exposure to physical danger, and a certain amount of intellectual education. greater the latter the more certain is the possessor of constant employment and suc-From the daily wages stated, it of course follows that the yearly earnings are moderate. Nevertheless, in all manufactur-ing communities of this country you will find that the mechanics are, as a rule, the men who have acquired homesteads, who live with the most comfort, and whose children are prepared for a higher plane than that occupied by their parents. It certainly seem unjust that, as opposed to such a class of workers, other men without intellectual education, with trades that, with scarcely an exception, if sufficient physical strength possessed, can be acquired in less than a year, should control a rate of pay from one and a half to three times as great. The young man in the machine shop cheerfully levotes his time, while learning his trade, for a compensation of some \$3 His fellow in the rolling mill, 18 years of age, must receive from \$1.50 to \$2 per day, or he will remain in idleness.
To my mind, true justice demands that the
wages of the skilled mechanic should be the basis in comparison with which the rate of all other labor should be determined.

But to reach the sought-for plane, to place the manufacturers of this country in a posi-tion to compete in the open markets of the world, to render the question of tariff entirely one of revenue, one more thing is absolutely necessary: We must have cheap solutely necessary: We must have chear raw materials. No matter how much engineering skill is exercised, no matter how economical the administration, no matter how low the rewards of labor, unless the coal, the ore, the pig metal, are obtained at a far ower price than we now know, our market must be limited to our own domain, and the foreign importer must be handicapped by an impost; or else our furnaces must remain cold, our mills idle, and the mines of either my own New York or those of hospitable Virginia lie undeveloped. To give us this cheap material, other than labor must be content with smaller returns. If the ore property is acquired for, say, \$50,000, the company formed to develop it must not have a capital of \$1.000,000, and each stockholder expect at least 10 per cent on his watered investment. I fully appreciate that this is ton, to meet it the manufacturers must have iron at the English price of, say, from \$12 the same time pay labor as American labor

should be rewarded.

The advisability of such a policy has been recognized by at least one association of capi-The furnaces and mil's located on talists. The furnaces and mil's located on the Hudson River, while possessing many advantages of location, have been handi-capped by high-priced fuel. This must ever remain, and, in the struggle of the survival of the fittest, there could be but one other element to offset this disadvantage. If cheap and good ore could be obtained, the distance from the coal fields would be more than neutralized. To Mr. James A. Burden, of Troy, belongs the credit of a methodical investigation, rewarded by complete success which promises to make the Hudson Valley one of the most favorable points for the production of cheap and good iron in the United States. The gentlemen associated with Mr. Burden in the possession of the Hudson River ore property, and also the Chateaugay property, believe that their true interests point toward a large output at a small profit. Fortunately, the mixture of the Chateaugay and Hudson River ores in about equal proportions furnishes an easy working burden, and yields good foundry,

working burden, and yields good foundry, mill and Bessemer irons.

Taking Troy as a point at which these ores may be brought together and smelted in properly constructed furnaces, costs can be found a follows:

ngured about as rot	lows	2		
ton of Chateaugay . ton of Hudson River		**** **	******	\$ 86.5
1/4 tons of coal			*********	. 5.0
Limestone				5
)il, tools, etc.,		******	*********	5
Labor				1.5
Repairs, etc				. 2.0
m-4-1				-

savings. You may make heavy reduction in wages, and save but a small amount per their share toward solving a problem which, ton of product, and, when times change, the reduction must be restored. But save a few per cent. of loss in the processes of manufacture, and your aggregate is the save and leads it to prove the distance of the same and leads it to prove the salvest and the save and the placed, is to properly administer the talents The seeking after the best given unto him. The seeking after the best methods in all things is imperative on all. But have we not cause to be proud of the development of our country, and reasonably well satisfied with the results ! Coming, as we distant members of this Institute do partake of the hospitality and witness the Aladdin-like achievements of our hosts of this section of Virginia, are we not inclined to conclude that the system which has ren-dered such things possible is fit to live? so, then, gentlemen, we must resort to political as well as engineering methods.

PAPERS ON VIRGINIA ORES.

The first paper of the evening was that of Mr. A. S. McCreath, of Harrisburg, Pa., on "The Iron Ores of the Valley of Virginia." Mr. McCreath, as will perhaps be remembered by some, recently had occasion to examine the mineral resources along the lines of the Shenandoah Valley and the Norfolk and Western railroads, and much of the infor-mation thus gained was embodied in the paper, forming an interesting and valuable collection of data on the subject. Discussion was postponed until after the reading of a paper on "The Ores of Cripple Creek, Vir-"by Capt. C. R. Boyd, of Wytheville, As both papers, however, were of considerable length, and as some time had been occupied by the various other proceedings of the evening, the time remaining for discussion was naturally limited, and few, if any, points of special note were brought out, and the meeting was brought to a close shortly after 10 p. m.

THE LYNCHBURG FURNACE.

Tuesday being devoted principally to excursions, a special train kindly provided by the Norfolk and Western Railroad took the visitors to Lynchburg, where the blast furnace of the Lynchburg Iron Co. was visited. This furnace, it appears, was originally designed to use charcoal as a fuel, but is at present running with Connellsville coke, ielding an average daily output of 35 tons. Further inquiry showed the stack to be some 60 feet by 12 feet 6 inches, a blowing engine having a 20-inch steam and 60-inch blowing cylinder, with 4-foot stroke, furnishing the necessary blast through four tuyeres with 41/2-inch nozzles.

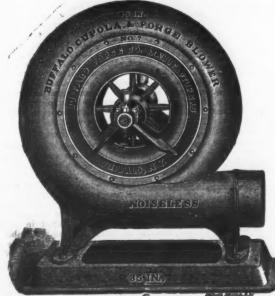
THE RIVERVILLE MINES.

Through the courtesy of the Richmond and Allegheny Railroad Company a special train had been provided which conveyed the party to Riverville. Conveyances of great variety here awaited the visitors, who were soon on their way to the Riverville iron ore mines, located about 11/2 miles The mines turn out a mixture of distant. specular and magnetic ore, yielding about 50 per cent. of metallic iron, and are said to be ufficiently low in phosphorus to enable the production of Bessemer pig. Returning from the mines, the guests found an excel-Returning lent lunch served by the citizens of Lynch-burg, after partaking of which they re-turned to that city. Owing to a break-down of the engine and the consequent delay, Lynchburg was not reached until long after the appointed hour, and the session which had been arranged for the afternoon was consequently omitted. Visits were made to several points of interest, among the Chamber of Commerce, where a fine display of minerals was examined. Roanoke was again reached shortly after 10 o'clock in the

Wednesday morning found the members assembled in Rorer Hall, at Roanoke, for the second session, the first paper read being that of Maj. Jed. Hotchkiss, of Staunton, Va., on "The Coals of the Lower Measures or Conglomerate Group in the Virginias," and also on "The Iron Ores of the Virginias West of the Archæan or Eastern Blue Ridge. investment. I fully appreciate that this is not likely to be received with favor; but if the demand is for steel rails at about \$25 per eration, showing the locations of the ore and coal deposits, and also giving some partic lars as to the geological formation of to \$13. Then, with the American converter, averaging 42,705 tons, against 20,920 for the English, and 15,001 tons for the French, per year, there need be no fear but the American product can compete in any market, and at a Cover Evenese the Royal Land at Crozer Furnace, the Rorer Iron Co.'s mines and the Roanoke Machine Works. Follow ing the papers of Major Hotchkiss was that of Mr. Edward Gridley, of Wassaic, N. Y., on

CAST IRON OF UNUSUAL STRENGTH. Mr. Gridley stated that the smelting of carbonate ore found near the hematite mines of Amenia, Dutchess County, N. Y., produced an iron exhibiting unusual properties. About a year ago the Wassaic Furnace, of Wassaic, N. Y., made several hundred tons of iron m a mixture of two-thirds raw carbo and one third Chateaugay, hoping that the resulting product would be sold for steel purposes, but as it showed 189 per cent. of hosphorus it was not offered ooked well and seemed quite strong, giving also good results in malleable castings cial tests as to the strength were made at a time. About the beginning of February of this year the company began using two-thirds roasted carbonate and one-third Chateaugay ores, and, noticing that the iron was stronger than usual, two samples were tested, and the result showed that the tensile strength was 32,014 and 34,176 pounds per square inch respectively. After the stock square inch respectively. After the stock of Chateaugay ore gave out a mixture of onecarbonate was used, and a test made of the resulting iron showed a strength of 40,008 pounds per square inch. These three tests were made by Mr. A. J. Copp and Mr. E. B. Manning, of the Phænix Furnace, on a Richlé testing machine. Since these tests were made samples were obtained from all-carbonate ores, and the results showed the following tensile strengths: 39,669, 40,816, 41,882, 42,281, 39,902 and 40,130 pounds per square inch. A sample taken

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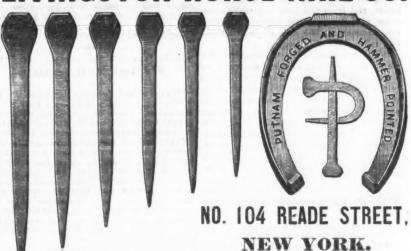
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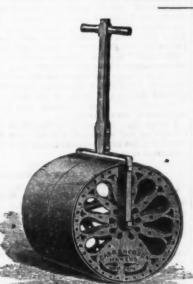
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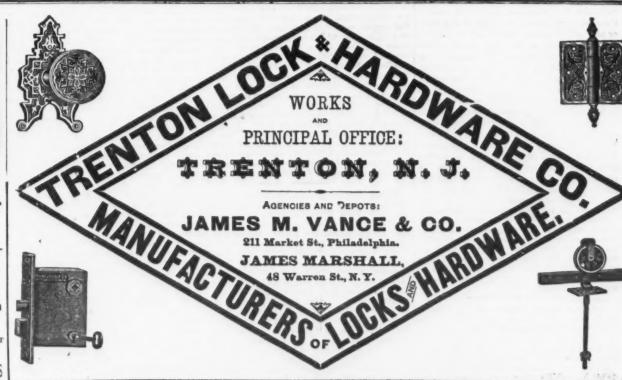
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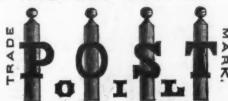
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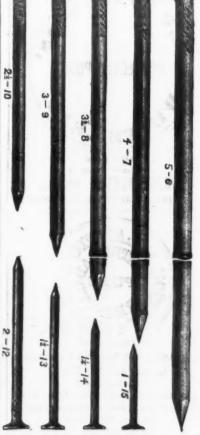


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following results: Torsion, 7 degrees; resistance. 931.38; resilience, 48.38; tensile strength, 44,500 pounds. A sample sent to Messrs. Davenport, Fairbairn & Co., of Erie, Pa., was also tested on the torsion machine, showing a tensile strength of 47,500 pounds per square inch, the torsion amounting to degrees. These tests were all made from "Require and Improvements at Coder Point". samples obtained by making a hole in the sand at the end of the pig from 10 to 12 inches long and 11/4 inches in diameter. No iron. Shortly after the above tests were made a report was received of two samples broken by Messrs. Fairbanks on their large testing machine, showing the tensile strength to be 39,068 and 41,029 pounds respectively, while the average of a series of 13 different tests gave a result of 41,349 pounds per square inch. In view of these facts it was but natural that some further particulars as to the ore and the iron obtained from it would be desirable, and, consequently, chemical analyses were made of both the ore and iron. The analysis of the roasted ore was made by Messrs. Booth, Garrett & Blair,

Roasted	Roasted carbonate, Feb. 29, 1883, Phosphoric acid
---------	---

The analysis of the iron was made by Dr. Thomas M. Drown, of Easton, Pa., the results being as follows:

Analysis of iron from carbonate ore, May 26, 1883. Total, 3.090

Mr. Gridley had provided a number of samples of the pig and also of test pieces that had been broken in the testing machine, and these were examined with critical interest. Questions by several as to the probable cause of this unusual behavior of the control of cause of this unusual behavior of the pig could not be answered, Mr. Gridley himself could not be answered, Mr. Gridley himself being unable to account for it. A paper on the "Occurrence of Copper in Pennsylvania" was then read by Dr. P. Frazer, of Philadelphia, followed by another on "The Porosity and Specific Gravity of Coke," by Mr. F. P. Dewey, of Washington, D. C. After a short discussion, bringing out nothing of special interest, Mr. E. G. Spilsbury, of Lancaster County, S. C., read a paper on "The Designolle Process." The session was then declared adjourned. clared adjourned.

THE CROZER FURNACE.

The Crozer Furnace, which was visited on Wednesday, was recently blown in, and is Wednesday, was recently blown in, and is located about a mile from Roanoke. The stack is 70 x 16 feet, with three Whitwell fire-brick stoves, each 18 x 70 feet, and an iron draft stack 162 feet high. There are two Weimer blowing engines, each with steam cylinder 42 x 48 inches, and blowing cylinder, each 48 x 84 inches. The engine houseis 42 x 35 feet; casting-house, 138 x 50 x 25 feet, built of brick, with corrugated iron roof; stock-house, 150 x 75 feet. The iron roof; stock-house, 150 x 75 feet. The estimated capacity of the furnace is 100 tons per day. The ores used are chiefly those from the Crozer Steel and Iron Co.'s mines near Roanoke, the fuel being coke. The machine works of the furnace were built by well-known firm of Witherow & Gordon, of Pittsburgh.

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per square inch, the torsion amounting to of degrees. These tests were all made from iron cast in the pig-bed direct from the furnace. Some were made from the full pig turned down, but the greater number from samples obtained by making a hole in the sand at the end of the pig from 10 to 12 inches long and 1½ inches in diameter. No tests have yet been made with the remelted cover for coking Coal," by Dr. T. Egleston. "The Appolt tests have yet been made with the remelted cover for Coking Coal," by Dr. T. Egleston. "The Appolt Coals" by Dr. T. Egleston. "The Schwartzkoppf Control and Safety." Oven for Coking Coal," by Dr. T. Egleston.

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"The Treatment of Slimes," by F. G. Coggin
of Lake Linden, Mich. "Boilers and Boiler
Settings for Bleet Environment" by F. W. Gorn of Lake Linden, Mich. "Boilers and Boiler Settings for Blast Furnaces," by F. W. Gordon, of Pittsburgh, Pa. "The Timber of West Virginia," by Prof. S. P. Sharples, of Boston. "Notes on the Geology of Alabama," communicated by Dr. R. W. Raymond, of New York City. "The Langdon Gas Producer," by N. M. Langdon, of Chester, N. J. "Determination of Manganese," by Magnus Troilius, of Philadelphia. "Russell's Improved Process of Lixiviating Silver Ores," by C. A. Stetefeldt, of New York. "On the Copper Rocks of South Mountain," by C. H. Henderson, of Philadelphia. "On the Volumetric Determination of Manganese," by Messrs. Beebe, Colby and Mackintosh, of by Messrs. Beebe, Colby and Mackintosh, of New York. "On the Iron Ores of Eastern United States and their Geological Horizons, by Prof. J. C. Smock, of New Brunswick, and "Notes on the Construction of Chimneys," by P. Barnes, of Elgin, Ill.
Resolutions of thanks were then passed

to the citizens and ladies of Lynchburg and Roanoke, to the Shenandoah Val-ley, the Norfolk and Western, and the Richmond and Allegheny railroads, and to all individuals and corporations who had extended courtesies to the Institute. The meeting was then adjourned, and having returned to Roanoke, everybody was actively

An early start was made on Thursday morning, the party proceeding to New River, where another train on the New River branch was taken for Pocahontas. The extensive coal mines at this place formed a subject of considerable interest and favorable company textures the start of the place of the considerable considerable. ble comment, attention being also given to the numerous coke ovens now erected and the numerous coke ovens now erected and partly in course of construction at that place. A lunch which left nothing to be desired, both as to variety and excellence, was here furnished, and after having satisfied the wants of the inner man, the train was taken for Wytheville, where the night was passed. The hotel accommodations of this place were naturally insufficient for so large a party, but the hospitable citizens came to the rescue, and everybedy was soon comfortably situated. On Friday morning a special train berry Mines were reached by a narrow-gauge road about 30 miles long. These mines, as may be known to some, yield a very pure magnetic ore, low in phosphorus and practically free from titanium. No very great development has been attained thus far, but the near future will, beyond all doubt, witness extensive mining operations in this locality. Fatigued with the day's journey, but at the same time well pleased with what had been seen, the party returned to Roanoke, arriving at a late hour of the night.

HOMEWARD.

Saturday morning found the great proportion of those who had attended the meeting assembled at the Roanoke depot previous to stalls for 20 engines, and a turn-table 75 feet in diameter; smithshop, 350 x 72 feet, with four steam hammers and one drop hammer of 3000 pounds; machine shop, 381 x 72 feet, good-by to friends and acquaintances, a last glance at the cheerful little town where so gine of 100 horse-power; erecting shop, 516
x 64 feet, fitted for the erection of engines,
&c.; foundry, 252 x 72 feet, with two cupolas,
three molding machines, hydraulic cranes
and a knowledge of the cheerful wheele and they
have been spent, and the
train whirled out of sight around one of the
many curves that characterize the road
through the picturesque Shenaudoah Valley. Car-whels and other | Here and there at different points and a brass foundry. Car-wa-eis and other castings will be made in this building; freight-car erecting shop, 408 feet in diameter, with central turn table of 100 feet with central turn table of 100 feet diameter, and having 20 railway tracks in

The Barbed-Wire Patents.

In our last issue we gave a brief abstract of the decision of Judge Treat, of the United States Circuit Court at St. Louis, against the validity of the barbed-wire patents owned and controlled by the Washburn & Moen Mfg. Co. In the Missouri circuit the cases These and the excursion to the Rorer Iron Iron Co.'s mines, about five mess distant from Roanoke, occupied some four or five hours, at the end of which a special train on the Norfolk and Western road took the visitors to Blue Ridge Springs. Here a ware against Henry Fuchs the Simpons

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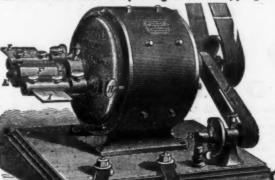
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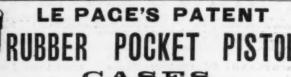


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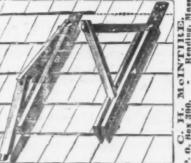
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controlling all of these suits may properly be considered, without detailing further the specific differences between them; for if the conclusions reached are correct, they cover all the pending motions. The arguments were, by desire of the Court and of all the parties, extended far beyond what is usual on motions of this kind. They went into a full consideration of the validity of the varifull consideration of the validity of the various reissues and the question of infringement. Acting upon the suggestions of counsel, and being fairly advised of the main points at issue, this Court does what it is seldom willing to do—viz., express somewhat in extense what ordinarily would be reserved for final hearing. This is the more cheerfully done because like motions are pending. fully done because like motions are pending in other courts of this circuit, and uniformity of decision should be had. It has been deemed proper, in the interest of all con-cerned, that there should be the fullest interchange of views among the judges in this circuit before whom like motions are pending, so that the views here expressed might not be in conflict with those of other courts in this circuit, but that these might be presented as test cases.

The Hunt and Smith patents were com-

mented upon in the case against Haish, 4 Fed. Rep., 900. The use by Hunt of a pointed sheet, with a hole punched therein, to be strung on a wire or rope, and by Smith of a bend or curve in the wire to prevent the slipping of the pointed sheet or barb, is outside of the questions now presented, except to the extent that they show the state of the the art when Kelly's original patent was granted. It is clear that Hunt contemplated only the stringing on wires or ropes of his pointed sheet barbs, punched in the center as stated. Such punched sheets could not retain, distributively, their position along the wires or ropes. Hence Smith suggested the bending of the wires at stated intervals, so that the sheet barbs might be thus dis-

Such was practically the state of the art Such was practically the state of the art when Kelly conceived the plan of hammering or compressing the sheet barb on the fencewire, so that the same could not slip, thus making rigidly a barbed wire of barbed sheets fastened to the fence wire before or after the fence wire was strung in place. There was a common thought, viz.: the use of such punched sheets strung along a rope or wire. Next by Smith a mode of keeping such barbed sheets in position, and then the compressing mode by Kelly.

In the light of these suggestions the Court is brought to a consideration of the Kelly and Gliddon patents, and of their respective issues. It has been deemed advisable, instead of giving a separate opinion in each of the cases, some depending on one and some on another reissue, to treat at the same time on another remsue, to treat at the same time all the patents involved, for the conclusions reached affect all alike. The Kelly patent, No. 74,379, date February 11, 1868, was for a combination by which a plate of iron or steel was strung on a wire and fastened or steel was strung on a wire and fastened by a blow or compression, so as to flatten the opening and fasten it to the wire. Said plate had sharp thorns or points. It was stated that the wire might be put up with the thorns previously attached and secured, or put on loosely and distributed and secured after the fence was erected. The former—that is, fastening of the barbs to the wire before the fence was erected—was stated to be preferred. This clause appears in the specification: "I can, where it is desirable to increase the strength of the wire, lay another wire of the same or different size another wire of the same or different size alongside of a thorn wire, and can twist the two together by any suitable mechanism. Fig. 2 is referred to. It tends to insure a regularity in the distribution of the points in many different directions." The Kelly reissue, No. 6902, dated February 8, 1876, contains claims, the first and fourth of which are alone involved in this suit. To ascerare alone involved in this suit. To ascertain their effect reference must be made to the specifications in the reissue. Its specifications suggest that the twisted wire will lock the thorn, and insure a regularity in the distribution thereof. The original patent suggested only the twisting of the second wire to strengthen the first wire on which the pointed plates were strung and made rigid by compression. It is obvious that the combination in the original patent did not

otherwise, did not contemplate defendant a form or barb, or the use of a twisted wire to keep such barbs in position. If, therefore, the reissued patent 6902 is to be considered in the reissue thereof. As to the reissue as covering more than the mode of fastening of February 8, 1876, No. 6913, it is impossible to read it without observing that it was the reissue thereof. tion stated, and as extending the use of the twisted wire so as to include its use for the distribution and locking of all kinds of barbs, then said reissued patent is invalid as to said extension, because it was not included within of the original invention, and also because if there were any inadvertence, &c., the patentee, under the recent decisions of the Supreme Court, was too late in correcting the alleged mistake, &c. The result is fied that said reissued patent is invalid so far as of a twisted wire to lock and keep barbs in position. Also, that the defendant's prod-uct, both as to the barb and the mode of fastening or distributing the same, is entirely outside of the Kelly patent or its reissue. In the original Kelly patent, the specification of which is above quoted, there is nothing to indicate the use of a second wire, twisted, for locking purposes. The means of keeping the plate or barb in position was entirely distinct from the strengthening of the fence

wire by twisting around it a second wire.

Prior to the Kelly reissue, February 8, 1876, other constructions of barbs and their connection with a second and twisted wire to lock barbs of different construction had been

other wire of the same or different size along-side of a thorn wire and twist the two together by any suitable mechanism. This onstruction is represented in Fig. 2. It cks the thorn and also tends to insure a regularity in the distribution of the points in many directions." It will thus be seen that the purpose of the second twisted wire was suggested in the reissued patent to have a purpose not hinted at in the original. Indeed, if the barb plate was rigidly attached to the fence wire, which was the main object of the original invention, the second wire could accomplish no other purpose, as stated, than to strengthen the first wire, for the birb plate was already by the contrivance named rigidly fixed. In the original patent the second claim was for "the thorn E and wire D combined in the manner represented, and adapted for use in a fence herein set forth." That was for a combination of the thorns and wire, the thorns having been by compression fixed to the wire either before or after the wires were strung on the fence, the second wire performing no other func-tion than strengthening the first wire. There was no locking suggested, nor mechanically could it be otherwise than useless for locking purposes, inasmuch as the locking had been rovided for by compression.

It is contended that the first and fourth

claims of the Kelly reissue are not only for the same invention covered by the original patent, but practically cover any use of a second or twisting wire by which the barb plates or series of thorns can be held in position, distributively, along fence wires, whether the thorns are by perforated plates or short twisted wires in loops. The first claim of the Kelly reissue is in these words: described of the fence wire D, and a series of thorns, E, rigidly fixed thereto for the purpose herein set forth "-that is, the same combination mentioned in the criginal patent as already described. The fourth is in these words: "I claim the combination substantially as described of two wires, D D, twisted together and a series of thorns, E, strung upon one of said wires and held in position by them as and for the purposes set forth."
It is evident that if the use of the second wire was to lock the thorn without the compression of the barb plate, then an entirely new device had been inserted into the old combination. It can hardly be contended that the combination of either the original might be used in any combination irrespective of compression where twisted wires were to be used. Hence the result of this examination is:

1. The reissued patent is expanded, un-lawfully, to cover what was not a part of the original invention or combination. 2. That inasmuch as the use of the second or twisted wire for locking purposes without compression or perforated barbed plates had in the meantime been patented or applied for, and inasmuch as there was no inadvertence, accident or mistake to be corrected, it is obvious that the reissued Kelly patent is invalid, because not only of the laches of the patentee, but also because it is broader than the original invention. It evidently was intended to cover subsequent inventions, and by expansion appropriate the inventions of others, thus coming within the denunciation of the Supreme Court as to reissued patents so broadened.

The next patent under consideration is reissue No. 6913, February 8, 1876, being a reissue of patent No. 150,683, May 12, 1874. The claim in the original patent is in these words; "The combination of the wires B, slotted tube G, coil spring L and pos for keeping the wires in proper tension in various temperatures as described and shown.'
The combination was for wires extended longitudinally, clasped at intervals by spurs leaving the wires intermediately in an ellip tical form, whereby said spurs would be re-tained in position and said wires, passing through the slotted tube with its coil spring, broadly expanded to cover what was not even hinted at, or in anywise suggested, in the specifications of the original pat-ent, or in the claim therefor. The claim in the reissue is: "In combination with a fence wire, a barb formed of a short piece of pointed wire, secured in place upon the fence wire by coiling between its ends, forming two projecting points substantially as speci-

Thus, an original combination of two wires the same may be supposed to cover the use not twisted, but looped by spurs at inter-of a twisted wire to lock and keep barbs in vals, connected with a slotted tube and springs to regulate expansion, is by the resought to be converted into another new combination, whereby the looping of the wires, the use of the spurs with re-spect thereto, the slotted tube and spring spect thereto, the slotted tube and spring disappear, and an entirely new combination presented, namely, the close twistn is presented, namely, the solution of two wires, with spurs interjecting stated intervals and locked in position the second or twisting wire. A new by the second or twisting wire. A new position and use of the wires are thus presented, a new arrangement of the spur of barb in connection therewith, and the ab sence of the slotted tube and spring. The purpose of providing for expansion disappears. The views thus expressed receive

cially in the light of subsequent inventions which is in these words: "A twisted fence and of his laches, renders the reissue invalid. His reissue was subsequent to the Gliddon patents. True, in the specification of his reissue, he says: "Where it is desirable to increase the strength of the wire I lay and the wire I lay and the strength of the wire I lay and the strength of the wire I lay and the strength of the wire I lay and the wire I lay wire strand z twisted upon its fellow, substantially as specified." It is contended that the prior patent of May 12 contained the invention of this later patent. If so, why did Gliddon take a second patent for what was already embraced in his former Did not the taking of the patent? patent necessarily imply that he had no prior patents therefor—that the two inven-tions were wholly different? It is contended that as the application for the later patent was made prior to the application for and issue of the earlier patent, and that as by the rules of the Patent Office a reissue, if desired, had to be made for the patent first granted, therefore the patentee to go back to his first application and thus eke out his claim for a reissue, as if both patents were combined in one. Great stress has been laid on this It is obvious that the Gliddon re-6913 of itself was altogether too noint. was altogether too broad to be sustained unless it is permissable to go behind the original patent of May 12, 1874, and help out the same by reference to an application under which a later patent was issued

This Court is not prepared to accede to any such view of the law, whereby several patents can be combined into one for the purpose of enabling a patentee to secure a reissue of a specified patent for an invention not contained in the original. It appears to the Court that the reissued Gliddon patent was for an entirely different invention than that claimed in his original patent. appears that he was fully aware of that fact. because he received the later patent of November 24, 1874, and now claims to expand his prior patent of May 12 to cover this later patent. It would seem there was no 'inadvertence, accident or mistake" in the patent of May 12, entitling him to the reispatent of May 12, entiting him to the reissue, but merely a bold attempt to cover, under the form of a reissue, another and an entirely distinct and patented invention. The conclusion is that both reissued patents

The attempt to justify the reissued patent of May 12, 1874, by invoking the prior application, October 27, 1873, for the patent of November, 1874, falls within the reasoning of the United States Supreme Court—11 Wallace, 516—the statement wherein is the converse of that now under review. That Court said: "Where the thing patented is an entirety consisting of a single device or combination of old elements incapable of or reissued patent covered all possible forms division or separate use, the respondent canof barbed plates, or barbs or points which might be used in any combination irrespective of compression where twisted wires were the bayest the charge of the entire thing is found in one prior patent or printed publication or machine, and another part in nother prior exhibit, and still another part in a third one, and from the three, or any greater number of such exhibits, draw the onclusion that the patentee is not the original inventor of the patented improvement. If this be true as to the nature of a combination when an infringer seeks to defeat the same, why is it not equally true where a reissue is sought to be upheld, under an original patent, by importing into the reissue devices not suggested in the original, making thereby a new combination distinct from the original? In other words, the reissue must be confined to the original "combination," and cannot be expanded to make a new combination by introduction therein of devices, new or old, not included in or suggested by the original—Munson vs. Gilbert, 3 B. & A., 595. It must be borne in mind that the Court is dealing with a "combination" retent and that under preference of a tion" patent, and that under pretense of a reissue a new combination cannot be upheld. Therefore, the several motions for preliminary injunctions are overruled.

INFRINGING ON MACHINES.

In giving his opinion on the cases in which the use of infringing machines was alleged, Judge Treat said: "Each of plaintiff's patents is for 'combination,' and not for a single or specific device. It does not appear distinctly what, if any, new daylors distinctly what, if any, new devices were used in the combinations, and certainly stantially the same as in the original patent, which the defendant has not infringed. The fourth claim of the reissued patent is for twisting two wires and a series of thorns strung upon one of the wires, and held in position by them, as set forth—that is, by compression. The original patent for the fixed barbed plates, made by hammering or otherwise, did not contemplate defendant's form or barb, or the use of a twisted wire to the reissued barbs in position. If the contemplate defendant's form or barb, or the use of a twisted wire to the reissued wire to the reissued barbs in position. The original patent for the same as in the defendant's form or barb, or the use of a twisted wire to the reissued the first claim is substantially the same as in the designed to be so rigid as to prevent the operation of the slotted tube and contraction. Neither the specifications and contraction. Neither the specifications and drawings nor "claim" are for the mode of interiors, whether of the Ross or Stevens patents, are not the same as in the defendant and apparent that the feeding mechanism operates in the Ross and Compating a slotted tube and spring as described to the soluted tube and spring as described to the soluted tube and contraction. Neither the specifications and contractions and contractions. After a discussion of the doctrine of "combinations." After a discussion of the doctrine of "combinations." The devices and arrangements in combinations, whether of the Ross or Stevens patents, are not the same as in the devices and arrangements in combinations. The devices and arrangements in combinations of the doctrine of "combinations." The devices and arrangements in combinations.

The devices and arrangements in combinations of the devices and arrangements in combinations. The devices and arrangements in combinations. The devices and a for a patent as an improvement on the Ross or Stevens machine, in what would his im-provement consist? If he discards the former combination instead of adding thereto, would not his combination be a new one, instead of an improvement on the old one If he omits some of the old elements, then he does not infringe. If he uses the same elements in the same combination he does in-fringe, although some of the elements differ in or modes of immediate operation, provided they are known mechanical equiva-If, on the other hand, he omits some lents of the devices in the original or patented combination, and substitutes therefor, not a known mechanical equivalent, but an entirely new device, whereby a more beneficial result is effected, his combination is a new one, and not to be excluded from competition with the old.

"It appears that defendant's machines follow none of the combinations under which plaintiffs claim. It is very different in many of its devices from those in the Ross patents and although it apparently approaches nearer in its feeding mechanism to the Stevens patents, yet it changes essentially ome of the parts of the Stevens combina tion, and in so doing practically reverses the operation, and accomplishes what the Stevens machine could not effect so beneficially.

If the views here intimated are not to obtain, then the road to all new inventions for feeding barb wire is closed. These motions shown. At the final hearing the Court may

INJUNCTIONS DENIED IN IOWA.

KEORUK, IOWA, June 11, 1863. Judges McCready and Love forwarded to the Clerk of the United States Circuit Court at Des Moines to-day an order in the barbed-wire cases of the Washburn & Moen Co. vs. Rhodes and others, denying several applica-tions for preliminary injunctions for infringe-ment of the reissued Gliddon and Kelly patents. No opinion was written. The judges here have deemed it advisable to suspend their judgment on the cases which were argued in chambers at Keokuk some time ago, until similar motions involving the same questions shall have been passed upon by Judge Treat, at St. Louis. The court here did not destreet of orestall argument and anticipate the judgment of that court. Both Judges McCready and Love find Judge Treat's opinion in accord with their own judgment as to the validity of these patents.

INDUSTRIAL ITEMS.

NEW HAMPSHIRE.

At the first meeting of the Portsmouth Machine Co. the capital stock was fixed at \$100,000, all of which has been subscribed. The company was organized with Frank Jones, president; W. H. Hackett, clerk, and C. H. Mendum, treasurer, and will build a two-story brick machine shop, 204 x 72% feet, on the site of the burned Kearsage Mill.

VERMONT.

The Pittsfield Iron and Steel Co., of Pittsfield, Vt., have sold their property to a syndicate in Boston which is represented by B. F. Brown. What will be done with the property is undecided.

MASSACHUSETTS.

The manufacture of tacks and nails has just been commenced by Reed & Prince, of Kingston. The concern has no connection with the tack manufacturers' combination. and has at present 12 machines in active operation, with all the facilities and appliances for turning out good work. The members of the firm are both men of long practical experience.

The Lynn Machine Co., at Lynn, is a consolidation of two concerns, one represented by J. M. Taylor, millwright, and the other by Amos Holbrooke, machinist. Mr. Holbrooke is president and Mr. Taylor treasurer of the new company. Both of these gentlemen have been in business in Lynn over 20 years, their special line of business now being the manu-facture of shafting, elevators and mill work. Mr. Holbrooke has had years of experience in designing, inventing and in working out inventors' ideas on new machinery, and in this department he has been very successful. The company have lately purchased all the tools and fittings of the late Holly Steam Co., of Lynn, and are now under the of Mr. J. R. Barker.

At Cheshire, the Berkshire Glass Mining Sand Co.'s facilities have been greatly in-creased, giving them control of the Gordon bed, the Brown bed and the new bed near the reservoir which was opened about a year ago.

Messrs. A. G. Tompkins & Co., Boston, have just finished their new rolling mill at Danversport, which takes the place of one which was destroyed by fire in January last. The new mill is 150 x 100 feet, and has one 8-inch and one 14-inch train.

CONNECTICUT.

The machines and stock of the Waterbury Pin Co., whose doors have been closed, have been purchased by the Manufacturers' Pin Co., of New York, more commonly known as the Pin Combination.

PENNSYLVANIA.

provements at their Reading machine shops.
The foundations have been begun for a blacksmith shop 300 feet long. A large number of the recently suspended hands have been reinstated.

The Company of the recently suspended hands have been reinstated.

The Greenville mill of P. L. Kimberly & Co. was idle last week for repairs.

Lock Ridge Furnace, of the Thomas Iron is placed at \$20,000.

Co., has been blown out. rail mill three steel rails are rolled at once and four will be rolled at once when the mill is in full operation. The works use as fuel culm or coal dust from a mine close by,

which is burned on a patent grate.

fuel costs only 10 cents per ton at the mine The Dickson Mfg. Co., of Scranton, have een awarded the contract to furnish the Calumet and Hecla Mining Co., of Lake Superior, Mich., with a steel boiler 90 Superior, Mich., with a steel boiler 90 inches in diameter, 36 feet in length, and to carry 150 pounds pressure. The total weight of this boiler will be 108,000 pounds, and the asting for it will weigh to tons. It will have 199 three-inch tubes.

The Altoona Iron Co. have shut down their works, and it is not stated when they will start up again. They have no orders ahead, and have a large stock on hand. page throws out of employment abou: 400 men, who are dependent upon the company more or less for sustenance

The Blandon Rolling Mill, on the Eastern Pennsylvania Railroad, has started up again.

The Mahoning Coke Works, which were advertised to be sold at sheriff's sale recently, were not sold. They will not be put up again

Mount Joy Gray Iron Casting Co., Mount Joy, Lancaster County, are manufacturing a line of specialties which have been met ith much favor in the hardware trade Stauffer's patent porch support is one of these, and, being adjustable, is exceedingly useful. Sholl's reversible blind and shutter drop hinge is another specialty. The advantages claimed for them are that either part of the hinge will do for either right or frame. They are also said to drop deeper and lock more securely than any other similar hinge.

Marsh & Co., of Mount Joy, who are well known as manufacturers of land rollers, reaping machines, &c., have recently com menced building portable engines. sent out appear to have given entire satisfaction, and new orders are coming in quite

John Best & Co., Lancaster, report business very active, the demand having been in excess of their fullest capacity for months They manufacture portable engines oilers, grist and saw mill machinery, and agricultural implements generally.

The Keeley Stove Co., at Columbia, in addition to their trade in stoves, are now uccessfully manufacturing pulleys and hangers of all sizes. The experience and facili-ties which the company enjoy as iron found-ers, in connection with their exceedingly commodious premises, enable them to fill orders promptly, and there is little doubt that they will be as successful in this department as they have been in the stove trade.

PITTSBURGH AND VICINITY.

A. Garrison & Co. have just sent a train of 3-high plate rolls, 31 x 112 inches, to the Springfield Iron Mill. They are building rolls for the Maumee Rolling Mill Co., To-

Dilworth, Porter & Co.'s mill has again begun operations. During the shut-down many extensive repairs and improvements were made to the mill.

The charter of the Beckwith Carbon Co. has been filed. The company will be located at Pittsburgh, and will manufacture carbon points and plates for electrical purposes and crucibles.

Work has been commenced in the Lillie Stove Foundry, Millvale. The new firm have bought and will use the stock of patterns lately belonging to James Marshall

The firm of D. W. C. Carroll & Co. has been dissolved by the withdrawal of Mr. R. G. Jones. Mr. D. W. C. Carroll will continue the business under his own name. OHIO.

Mt. Vernon Furnace, at Ironton, has blown in.

The Akron Polishing and Plating Works have been bought by Mr. G. W. Smith, of Salem, who will continue the business on the same scale.

The foundation of the new addition to the Bellaire Goblet Works, 40 x 45 feet, is com-pleted, and the framework is being rapidly pushed.

The Ironton Register says: "All the furnaces in the Hocking Valley have been shut down with one exception, and some of them will not be fired again until there is an advance in the prices of iron." It is stated that the New York and Ohio

Iron and Steel Co. are contemplating the advisability of shutting down their furnace and purchasing pig for their own use. The Watt Mining Car Wheel Co., Barnes-

ville, have just completed another addition of 20 x 40 feet to their works, in which they have placed a trip-hammer and some other labor-saving machinery. They are working full time on their speciality, self-oiling mine car wheels and mine cars.

The starting of the big sheet mill at the Ward Mill, at New Philadelphia, will take about 30 more employees from Niles to that place.

Some of the puddling furnaces are up at the new Kelly Nail Mill, Ironton, and work is progressing rapidly.

At a meeting of the creditors of the Graffton Iron Co,, held in Pittsburgh, an extension was granted, and the works will continue operations.

Under the new organization by the Cleve-

The Eagle Machine Works, of St. Louis, has been incorporated, and is now the Eagle Machine Works Mfg. Co. The capital stock

The Western Stove Mfg. Co., of St. Louis, The Scranton Steel Co. now have their works in Scranton in nearly full operation. In the and have increased their working force d have increased their They are now turning out 15 or 20 stoves a day above their former output.

The Missouri Boiler and Sheet Iron Works, O'Brien & Smith, proprietors, of St. Louis, are now being enlarged to double their present size and capacity by the taking in of an antique. adjoining building. They are now putting in considerable new machinery, the latest piece put in being a Long & Allstatter (Hamilton, Ohio) combined punch and shear, weighing 29,000 pounds. This machine is capable of cutting and punching iron of a thickness of 2 inches.

The Hooker-Colville Steam Pump Co., of St. Louis, are now fairly settled down in their new and handsome works, in which they expect to turn out about 2000 pumps of all sizes per annum. They are running nights on orders for several large compound condensing engines for heavy duty.

ILLINOIS.

The Sperry Electric Light, Motor and Car Brake Co., of Chicago, have recently added a quantity of machinery to their plant, preparatory to entering into the manufacture of electrical apparatus.

John Mohr & Son, of Chicago, are building two 25-ton galvanizing pots for the Union Galvanizing Works, of that city, and have a number of boilers to construct for other parties.

The new Crozer Furnace at Roanoke made a very successful start on the 28th of last month. The first cast was a gray forge of fine quality and great strength, weighing patented or applied for. Hence the attempt in the Kelly reissue to broaden the original patent to cover what was not included in or suggested by said original patent, more especial cogenes from the claim of suggested by said original patent, more especial cogenes from the claim of suggested by said original patent, more especial cogenes from the claim of suggested by said original patent, more especial cogenes from the claim of suggested by said original patent, more especial cogenes from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more especial cogenes from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more especial cogenes from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more especial cogenes from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more especial cogenes from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more expected to be from the fact that on November 24, 1874, Gliddon obtained Patent to cover what was not included in or suggested by said original patent, more expected to an invention to an

Special Notices.

LATE PUBLICATIONS.

Brown, Walter L.-Manual of Assaying Gold, Silver, Copper and Lead Ores. 318 pages, illustrated, 12mo, cloth; 1883 \$1.75

This volume contains practical information to enable any one with a little practice to assay ores that are supposed to contain gold, silver, copper or lead. The book is comprised in three divisions. The first de scribes and illustrates all apparatus required; One 700 lb. Steam Hammer, it also describes the reagents and how to prepare and test them. The second part is devoted to the assaying of the ores of the four metals mentioned. In the third part many special processes are included, as the assay of gold and base bullion, amalgamation, pan and chlorination tests, copper analysis, testing of minerals, &c. Useful tables of weights, and for reference a list of books bearing on geology, mineralogy, metallurgy, &c., are included.

Thurston. - Materials of Engineering. By Robert H. Thurston, C. E., Professor of Engineering, Stevens Institute of Technology.

Part II, Iron and Steel; 143 illustrations, 680 pages, 8vo, cloth; 1883 \$5

In this, the second volume of Professor Thurston's important work on the materials of engineering construction, the author has included a large amount of practical information not heretofore available without consulting many different authorities. The ores of iron, their classification, analysis and reduction have received thorough treatment. The construction and management of blast furnaces and the different operations connected therewith are comprehensively detailed. The subject matter comprehends all the practical operations employed in the manufacture of iron and steel, so simply expressed as to be readily understood by those of limited education. There are several chapters upon the strength, elasticity and resistance of the metals treated, under the effects of time, temperature and repeated strain, with the necessary formulæ and diagrams. The ork is valuable not only as a text-book for the student and engineer, but equally so as a work of reference for the manufacturer and mechanic. Considerable space is given to the most approved methods of manufacturing malleable iron, and the tests of iron and steel are carefully considered and illustrated by recent examples.

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OFFICE OF THE COMPTROLLER, CITY OF ALLEGHENY, PA., May 28, 1883.

NOTICE TO BUILDERS OF WATER WORKS PUMPING MACHINERY.

Sealed proposals and specifications will be received at this office until 3 p. m. Monday, June 25, 1883, for the construction and erection of three (3) Four Million or two (4) Six Million Pumping Engines, to be located on Wate-Works property, River Avenue, Eighth Ward, Allegheny, Pa.

The specifications will include all necessary excavating and masonry for foundations for Fump Well, also foundations for Engines and Engine House. (The erection of Pump House to be done by the city.)

The Pumping Engines to be vertical, with outside packed plunger pumps, and to be of a combined capacity of twelve million gallons, pumped against a head of 200 feet in 24 hours, with a piston speed not exceeding 120 feet per minute.

The guaranteed duty must be given on the evaporation of the present bollers now in use at works.

The contractor must furnish specifications and

speed not watered duty must be given.

The guaranteed duty must be given by a contractor must furnish specifications and detail drawings of Engines, also plan of Pump Well and foundations for Engines.

The whole to be erected and completed in eight months from signing of contract, in accordance with such plans as may be selected by the Superinteent of Water Works and approved by the Water Committee and Councils of the City of Allegheny, Pa.

No proposal will be considered unless in accordance with the above and accompanied by a bond equal in amount to the bid.

All information in regard to the above work will be furnished by Edward Armstrong, Superintendent of Water Works, City Hall, Allegheny, Pa.

The Committee on Water reserve the right to accept or reject any or all bids.

JAMES BROWN,

Comptroller.

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Intricate Die Work

and to the manufacture of superio Japanned, Pieced and Stamped Tinware.

and other Catalogue Goods, we offer for sale the appliances, and for rent, with power, the rooms now occupied by the following departments of our

BRONZE AND BRASS STAMPING. BRONZE AND BRASS SPINNING, BRONZE AND BRASS POLISHING, BRONZE AND BRASS DIPPING AND

LACQUERING, ELECTRO-PLATING (Weston Dynamo-

Electric Machine). To a person of experience, with requisite capital this is a rare opportunity to engage in a profitable

Apply at once, in person or by letter to THE DETROIT STAMPING CO., Lafayette and Brush Streets, Detroit

Wanted.

Light Machinery of all Kinds to Build.

Also Experimental, Jobbing and Repair Work.

Would also contract for rolling from 100 to 500 tons special shapes or sizes of iron.

Correspondence solicited. GLOBE NAIL CO.,

Boston, Mass.

Metal Exchange Memberships

Bought and Sold by
WM. WILLIS MERRILL,
4 Stone Street, Room 69.

EXCHANGE MEMBERSHIPS.

Wanted.

A Salesman for our Iron Department in San rancisco. A man thoroughly conversant with he iron business in all its branches, and also of eel, pipe tubes and heavy hardware. Apply by

letter to DUNHAM, CARRIGAN & CO., New York, Post Office Box 2664, giving particulars of age, experience and salary expected.

TO CAPITALISTS.—An active business man, who TO CAPITALISTS.—An active business man, who
for past to years has traveled over United
States generally for Manufacturers of Iron Goods,
is desirous of a position in some reliable house as
Manager, Correspondent, or as Buyer for large
incorporated company. Satisfactory references
and all communications confidential
Address
—BOILER TUBES,
Office of The Iron Age, 8; Reade st., New York.

Wanted.

A man of so years' experience as Manager of Coke and Raw Coal Furnaces desires a position. Has had experience with all native and foreign ores. Refers to F. D. Norton, Belfont from Works Co., Ironton, Ohio, and Col. Douglas Putnam,

Special Notices.

For Sale.

SIX 75 - H. - P.

BABCOCK & WILCOX BOILERS,

SECOND-HAND.

Lately in operation at the Havemeyer Sugar Refinery, Greenpoint, N. Y. The above having been taken in part payment for 2000 H.P. of our latest pattern, will be sold cheap. Address

THE BABCOCK & WILCOX CO.,

- 30 Cortlandt Street, New York.
- so Oliver Street, Boston.
- 15 White Building, Syracuse, N. Y. 32 North Fifth Street. Philadelphia.
- 91 Fourth Avenue, Pittsburgh. 45 Chamber of Commerce, Baltimore
- 48 South Canal Street, Chicago. 60 Carondelet St., New Orleans, La.

50 San Ignacio, Havana, Book on "Steam," to any address, free. THE BABCOCK & WILCOX CO.,

505 Mission Street, San Francisco.

For Sale.

THE WHOLESALE AND RETAIL

HARDWARE AND STOVE

BUSINESS

F. J. HOGAN & CO.,

Little Rock, Ark.

LONG ESTABLISHED. A CLEAN STOCK OF ABOUT \$20,000. SATISFACTORY REASONS FOR SELLING.

For Sale.

- Train, Lauth's, 3-high rolls, 22-inch.
 Train, 2-high soft rolls, 22-inch.
 Train, 2-high soft rolls, 20-inch.
 Train, compound, 3-high muck rolls, 28-inch.
 Roll Turning Lathe.
 Large Engine, 23 in. X 32 in.
 Large Bollers, fire-box 28 ft. X 48 in. Good as new.
- 4 Large Bollers, fire-box 20 M.

 4 Medium Bollers, 24 ft. x 42 in.

 1 Large Squeeser, 1 Large Pump, 1 Plate Shear,
 1 Sheet Shear, 1 Muck Shear, 2 Scrap Shears, Castings for four Charcoal Fires, Fans, Tools, Patterns, Scales, &c.

 Will be sold together, or separate, very cheap.

 Easy terms to responsible parties.

 Address

 130 Dearborn St., Rooms 14 and 16,
 Chicago, Ill.

Wanted.

Roll Lathe in working order, 9 ft. 6 in. between centers, and 20 in. swing; stands for 20 in. and 10 in. Rolls. Address

P. O. BOX 1158,

Pittsburgh, Pa.

A party to manufacture and take agency for a new Self-measuring Saw Table Gauge; all Lathe and Drill work. For particulars, address the

Wanted.

JOHN KIRK.

33016 E. 6th St., Cincinnati, Ohio. Die Sinkers and Drop Hammer Men

Wanted. Several good Die Sinkers and Drop Hammer-men wanted at Works of Chicago Forging Co., Pullman, Ill. Steady work and good wages. Competent men only need apply to THOMAS VORCE, Supt., Kensington P. O., Ill.

SPECIAL NOTICE. IN PRINT AND READY FOR DISTRIBUTION IN 30 DAYS. A POCKET MANUAL FOR ENGINEERS, EDITED BY

JOHN W. HILL, Mechanical Engineer, er American Association R. R. M. M.

of which, first 2000 copies will be furnished, postage prepaid, at one dollar (\$\frac{1}{6}\$,00) each; subsequent copies will be furnished (postage prepaid) at one dollar and a half (\$\frac{1}{6}\$,10) each. A pocket manual of useful information for mechanical engineers, steam users and mechanics, containing 22 pages (set in nonparied type) of carefully selected data, formulæ and experimental investigations from the latest and most approved sources. Printed from electrotype plates, on white No. 1 book paper, in stiff morococ oevers with cardinal edges. Size of page 4\(\theta\) x \(\theta\) (buches. EDITION TEN THOUSAND. ith cardinal caper to take & Co., Cincinnati, U. Problished by WILLIAM A. HARRIS, Builder f Harris-Corliss Steam Englishes, Providence, R. I., to

Wanted.

To Sell or Let, a first-class Foundry, situated in the village of Green Island, N. Y., on the opposite side of Hudson River from Troy; within easy reach of Hudson River and Erie and Champlain Canals. Goods can be shipped as late as 6 p. m. and be in New York early next morning. To manufacturers of Hardware specialties it offers exceptionally fine advantages. Has a good engine and all necessary machinery in the build-mes. ngine and an uccessign.

Igs.

Correspondence solicited. Address

JAMES MORRISON,

Troy, N. Y.

E. BISSELL & CO., Wholesale Hardware Auctioneers,

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments olicited. We refer to the leading manufacturers

An Energetic man, with business experience, good address, and practical knowledge of iron manufacture, would like to connect himself with reliable party in iron brokerage business. Address.

"ENERGY"
Office of The Iron Age, 220 S, 4th St., Philadelphia.

Special Notices.

NEW AND SECOND-HAND

MACHINERY.

s each Engine Lathes, r; in. swing, 6 ft., 7 ft., 8 ft., 1 ft. bed. New. 1 Engine Lathes, r; in. swing, 6 ft. bed. 2d hand. New.

ad hand. New.

Hand Lathes, 15 in. x 5 ft. bed. New.

Hand Lathes, 15 in. x 5 ft. bed. New.

12 in. x 4 ft. bed. od hand.

12 in. x 4 ft. bed. New.

13 in. x 4 ft. bed. New.

13 in. x 4 ft. bed. New.

13 in. x 4 ft. bed. New.

14 in. x 5 ft. bed. New.

15 in. x 5 ft. bed. New.

16 in. x 5 ft. bed. New.

17 in. x 5 ft. bed. New.

18 in. x 5 ft. bed. New.

18 in. x 5 ft. bed. New.

19 in. x 5 ft. sid. hand.

20 in. x 5 in. x 5 ft. New.

20 in. x 5 in. x 5 ft. New.

21 in. x 5 ft. sid. hand.

22 in. x 5 in. x 5 ft. New.

23 in. x 5 ft. sid. hand.

24 in. x 5 ft. sid. hand.

25 in. x 5 ft. sid. hand.

26 in. x 5 ft. sid. hand.

26 in. x 5 ft. sid. hand.

27 in. x 7 ft. sid. hand.

28 in. x 8 ft. sid. hand.

38 in. x 8 ft. sid. hand.

#

New.

2 Shaping Machines, 7-in. stroke. 2d hand.

2 Back-geared Milling Machine. New.

1 Milling Machine, with Arm. New.

2 Hand Milling Machine. New.

4 Automatic Milling Machine. New.

3 24-inch Upright Drills, Bk. Gr. and Self Feed.

New.

new.

zo-iach Lever Feed Upright Drili. New.
zo-iach Lever and Wheel Feed Upright Drill. New.
zo-inch Lever and Wheel Feed Upright Drill. New.
zo-spindle Drill Press. New.

Single Spindle Light Drill, Table Feed. New. Single Spindle Profiler. New. Two "Light. New. Single Spindle Profiler. New. Two "Light. New. Screw Machine, New.

Screw Machine. New.

1 Slotter.
1 Cutter Grinder.
2 Emery Grinders. New.
1 Slitting or Circular Shear. New.
2 Tapping Muchines.
2 Bolt Cutter, ½ to 2½ in, Nearly new.
2 Tapping Muchines.
2 Bolt Cutter, ½ to 2½ in, Nearly new.
2 Tapping Muchines.
2 Bolt Cutter, ½ to 2½ in, Nearly new.
2 Tapping Muchines.
2 Hand.
3 Fower Presses. New.
2 Foot Press. New.
2 Foot Press. New.
2 Foot Press. New.
2 Lot Heavy Folishing Frames.
2 Shefting Straighteners. New.
2 To x 12 Stationary Engine. New.
2 5 in. x 6 in. Stationary Engine. New.
2 10 H. P. Upright Boiler. New.
3 10 H. P. Upright Boiler. New.
4 Wood-Working Machiners.

Wood-Working Machinery.

Double Saw Bench. New.

1 24-in. Surfacer Rotary Bed. New.

2 Band Sawing Machine. New.

2 Scroll
1 Rod Machine. Self Feed.
2 Bandpapering Machine. 2d hand.

2 8-in. Molder, 4 sides. 2d hand.

2 Edge Molding Machine. 3d hand.

2 Edge Molding Machine. 3d hand.

2 Larze Lot 2d-hand Pulleys and Hangers.

And lot of others, both new and 2d hand.

If the list does not contain what yo

J. M. BADCER & CO.,

49 DEY STREET, New York City.

FOR SALE. No. 6 Baker Blower, Nos. 4 and 6 Sturtevant Blower, No. 6 McKinsie Blower; Cupola, 48 inches; Crane, 15 tons; 2, 4, 6 and 10 H.-P. Baxter Engines; Pianer, 20 x 16 x 4 ft., \$250; do., old style, 20 x 20 x 5, \$200; Engine Latha, 30 in. x 14 ft., \$350, &c. Furchases of new and second-hand machinery carefully made, at low rates, for parties out of the city.

18 New Church St., New York City,

For Sale.

TREBLE AND DOUBLE-GEARED 25-INCH ENGINE LATHE,

from new patterns. GEORGE A. OHL & CO., East Newark, N. J.

For Sale.

About 300 tons of Car Wheels, Lobdell and Southern makes.

For particulars, apply to J. W. HOFFMAN & CO., sc8 S. 4th St., Philadelphia, Pa.

VALUABLE PROPERTY FOR SALE.

The Hardware Works, Tenth and Spruce Streets, Reading. Pa., consisting of Foundry, Machine Shops, Warehouse, and other buildings, machinery, etc., all in first-class running order. One entire block of ground. Ample room for extension. Will be sold on easy terms. Apply to F. C. Shunk,

W ANTED.—A permanent position as Manager, superintendent or Designer and Draftsman by an energetic man who knows his business and scientifically educated, with long, practical experience in originating all kinds of new machinery, both light and heavy, and boilers, estimating their cost and price, and superintending their construction, and the management of help.

Address

85 East Eighth St., Oswego, N. Y.

WANTED.

Hardware Salesmen, with established trades, to introduce a valuable line of goods. HINE & CO., 2 and 2% Bowery, New York.

Special Notices.

New & Second-Hand Machinery.

H. PRENTISS & CO., 42 Dey St., N.Y

For Sale.

Established 1673. Gardner Bros "Standard Savage" Fire Blick Works, situated at Elleralie Station, Md., on Baitimore and Ohio R. R. Also on Bedford Branch of P. R. R. Has convenient shipping arrangements on both roads. Works consist of two independent plants of machinery, so constructed and arranged that they can be run separately or together. One of the buildings entirely new, erected last year. Capacity of works, over 14,000 bricks per day. Mount Savage clay in abundance, mined on royalty, and delivered direct into works by gravity. Inclined plane and tram road, large portion of which was laid with new Tee rail last year. New artesian well, capacity over 35 barrels per hour. Also mountain stream, delivering water by gravity into tanks at works. Seven acres of land, with nine good tene ments. Everything in first-class order for manufacturing and shipping brick direct from kilns into cars. Good and growing trade established. Brick unquestionably as good as the cest made of Mount Savage clay. Statements of business done will be shown to responsible parties desicous of purchasing. Our good will and influence to go with sale. Any further information desired will be cheerfully given by

GARDNER BROS.,

Lockport, Pa.

For Sale.

Established in 1864. Gardner Bros. Gas Retort and Fire Brick Works, situated at Lockport Station, on P. R. R., 6c miles from Pittsburgh, Pa. The works consist of complete plant for manufacturing Clay Gas Retorts, Stitings, Blocks, Tile and Fire Brick. Capacity, about reo retorts, with necessary settings, and reo, oco fire brick per month. Clay and coal mined by curselves within short distance of works and hauled in wagons. Over three acres of land, with all necessary buildings, a number of tenements and town lots, P. R. R. has side track alongside our kilns. Good trade established. Our good will and influence to go with sale. Statement of business done will be shown to responsible parties desirous of purchasing. Any further information desired will be cheerfully given by

GARDNER BROS

FOR SALE.

One Cast Iron Vacuum Pan, Vacuum and water pumps and all attachments. One Granulator, with attachments. One large Mixer, with attachments. One No. 5 Vacuum Pump. Two Sugar Packers.
Two Agitating Engines.
Two Steam Engines.
Nine Char. Filters.
Two Steam Presses. Two Scum Presses.

The above is a portion of the Machinery formerly used at Baltimore Steam Sugar Refinery, Baltimore, Md. For information apply to GEO.

B. GRAHAM, P. O. Box 193, Baltimore, Md., or to F. E. ADAM, n. e. cor. Lombard and Concord sts., Baltimore.

For Sale. The Industrial Works of Shamokin, owned and successfully carried on for a number of years by the late Wm. Brewn, deceased, consisting of Foundry and Machine Shop, and a large steck of Patterns regarded as part of the property. Boiler Shop, Blacksmith Shop and Factory for the manufacture of heavy coalscreens. Well located in the borough of Shamokin, Pa., with the best facilities for shipping by rail, and surrounded by a district contributing all the work that a shop of that kind can possibly turn out. Easy terms of payment are offered to suit a purchaser of limited capital For list of Tools and further particulars apply to WM. McILVAIN & SONS.

Manufacturers of Boiler Plate and Tank Iron, Reading, Pa.

For Sale. Heavy Planer, 39 in. x 39 in. x 13 ft., with rack exension, to plane 20 ft. Good as new. 24 in. to 36 in. planers. 25 in. column drills. 1, in. to 36 in. lathes. Lever Shears to cut 2 x 2. Shears to trim 1/2 plate.

A. G. BROOKS & WINEBRENER,
261 N. 3d St., Philadelphia.

For Sale.

AN IRON BRIDGE,

two spans, two hundred and sixty-five feet each, twenty feet wide. For particulars, address CHAS. K. LIPPINCOTT & CO.

Iron Merchants, 330 Walnut Street, Philadelphia.

Stock of General Hardware, Stoves and Tinware, and good-will of the business without bonus. Stock will inventory thirteen to fifteen thousand. Business located in a growing town of about 9000 inhabitants, in Northwestern Pennsylvania, and a railroad center. For further information, address "G.T."

For Sale.

Office of The Iron Age, 83 Reade St., New York.

Special Notices.

FIRST-CLASS PAYING BUSINESS For Sale.

Parties having built up and thoroughly established an extensive and fine paying business, will sell the same, including several fine machinery specialties in iron and wood, and a jobbing business of every class of Gearing. Shafting, &c., and Foundry and Woodwork. Specialties have but little competition and are easily managed. The jobbing business includes a very fine coll-ction of patterns in constant use, and controlling a very large jobbing trade. Also Machinery, Tools, Stock, &c., and good will.

Above business is constantly growing, and has every year cleared a very large amount of money. Is centrally located and upon a large and never-falling water power, with canal through premises and excellent railroad facilities. The reason for owners offering same is because the business has grown too large for present buildings and facilities and is contantly growing, and they desire to remove one specialty, for which they have lately secured letters patent and requiring special buildings and machinery, to the center of its market in the West, which will relieve sufficiently the present facilities now overcrowded. Or should any parties desire, we will sell the specialty and retain the other business.

The straightforwardness of above facts can be readily ascertained.

Any young man or old business men having money will find eitherbusiness a very pleasant and

readily ascertained.

Any young man or old business men having money will find either business a very pleasant and profitable one. To save annoyance or trouble, we will answer inquiries only from parties with commercial standing or who are vouched for by bankers or other responsible parties. Would prefer parties with means, interested and looking for an established, paying business, to call personally appen us with proper letters and introductions.

E. W. ROSS & CO.,
Fulton, N. Y.

To Brass Foundries. To Brass Manufacturers.

Our new foot press, for cutting off GATES from brans castings by FOOT power, is now ready. Weight, 250 flbs. Price complete, \$50, net. A boy can operate it easily. We warrant them to give the most perfect satisfaction. PERLESS FUNCS AND SHEAR CO.

For Sale or Lease.

A Large Two-Story Brick Factory,

formerly Macaine Works, at Pearl River, N. Y., on railroad depot, 25 miles from New York City, Railroad facdities unexceptionable, on the line of the New Jersey and New York Railroad. The property contains 40,000 square fest floor space, with one 80 H. P. Engine and Boller, 700 ft. 2-inch line shafting and pulleys, main belts, secam heating and water pipes throughout the building. A splendid iron feundry, 70 ft. by 90 ft., with one iron smelting cupola with Mackenzie blower, brass furnace, core oven, blacksmith shop, pattern vaults, annealing oven, etc. The property can be bought or leased on liberal terms. For further particulars, price, terms, etc., address can be bought of leased on hostas terms. For further particulars, price, terms, etc., address 11 Liberty st., New York City, or Pearl River, Rockland Co., N. Y.

For Sale.

The largest stock of New and Second-hand Engines, Boilers, and general Machinery in the West, Send for Catalogue. Hoisting Outfits for Coal Mining and other purposes a specialty.

WARREN SPRINGER, 195 to 219 South Canal St., Chicago.

For Sale.

Becond-hand

DROPS and LIFTERS.

BEECHER & PECK, Lock Box 202, New Haven, Conn.

For Sale.

New Machine Tools, &c.

compound rest. Engine Latine, power cross feed and compound rest.

27 in. x 97 it. x Planes 74 ft. Planer. A fine tool. 850 in. x 26 ft. x Planes to ft. Planer. A fine tool. 850 is in. Circular Base Graduated Planer Chuck. 354 in. Square Base Planer Chuck. 455 in. Dpright Drill, back geared. 210 in. Upright Drill, new design. 100 Rut Tapper, capacity 12,000 ½-10. nuts per day. 125 Chapin Header for 74-in. to 84 in. Carriage Bolts. 350 Punch Press and Shear, large size. 50 Ail the above tools are new and are warranted first-class in every respect.

AMERICAN TOOL CO., Cleveland, Ohio.

For Sale.

A stock of Hardware, with a good business, in one of the best towns in Central Iowa. Will be sold cheap, with or without the building. Address, A. G. THOMPSON,

Cedar Falis, Iowa STEAM PUMPS

For Sale.

A large number of Steam Pumps of all makes, and ranging in size from small tank or boiler feeds up to very heavy service machines.
While the stock lasts good bargains are open for Miners, Water Works, Rolling Mils, Furances, or any one needing to move fulled by steam.
Call upon or address
JNO. A. HINCKLEY

Call upon or address
JNO. A. HINCKLEY,
Purchasing Agent of the United Pipe Lines,
Oil City, Pa.

Wanted.

A Partner with \$1000 to \$10,000 in a Foundry and m, established in 1824. For particulars, loquire of I. H. COLLER,

Poughkeepsie, N. Y.

Wanted.

An old-established firm in Thames street, manufacturing specially one description of Ornamental Castings, but having warehouse too large for own use, are desirous to meet with manufacturers of other goods requiring them stocked in Loadon and sold on commission. Apply to

201/20, care of Ironmonger Newspaper,

42 Cannon street, London, England.

24-INCH LATHES FOR SALE.

ж.	34 IBCB X g	Tt. La	MDes.		0.0	00		0.0	0 0	0.0	0.0			6.0		440
3	24 inch x 12	ft. La	thes.													50
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Special Notices. HENRY I. SNELL.

135 North Third St., Philadelphia, Pa.

has just received a fresh lot of Machine Tools. Engines, &c., which he offers at very low figures One Screw-cutting Lathe, 6 ft. bed, 18 in. swing. One Screw-cutting Lathe, 8 ft. bed, 18 in. swing. One Screw-cutting Lathe, 18 ft. bed, 28 in. swing. One Iron Planer, made by Betts, 13 ft. long 38 in.

One 38 in. Upright Drill. Extra heavy. New.

For Sale.

Palo Alto Rolling Mills, Near Pottsville, Pa.,

ON THE MAIN LINE OF THE POTTSVILLE AND READING RAILROAD.

AND READING RAILEROAD.

These mills are in good repair, and can be started in two days' time.

Rolls for T-Rails 12 to 70 lbs. per yard, and for Street Rails 18 to 70 pils. per yard.

Guide Mill Train for Merchant Iron ¼ to 1 inch. Rolls for Merchant Bar, round and square, up to 4½ inches.

Number of Puddling Furnaces in both mills, 30; Heating Furnaces, 0; all with boilers attached. Also Foundry, Machine Shop, Blacksmith Shops, Iron Heuse, Roll House, Carpenter and Pattern Shops, Stables, handsome Dwelling for Superintendent, 12 Tenement Houses, as Brick Office, and ample grounds for stock and cluder.

For further particulars address

Messrs. LEE & McCAMANT, Extrs., Pottsville, Pa.

THOS. F. WRIGHT, 1804 Race St., Philadelphia, Pa. HUGH W. ADAMS, 56 Pine St., New York.

For Sale. Bolt and Nut Machinery.

Bolt and Nut Machinery.

Bolt Cutters, National, capacity up to 1 in.

10 Bolt Cutters, National, capacity up to 1 if.

10 Bolt Cutters, National, capacity up to 1 if.

11 Bolt Cutters, National, capacity up to 1 in.

12 Bolt Cutters, National, capacity up to 2 in.

13 Bolt Cutters, National, capacity up to 2 in.

13 Bolt Cutters, National, capacity up to 2 in.

14 Stational Bolt Headers, capacity up to 1 in.

15 National Bolt Headers, capacity up to 1 in.

16 National Bolt Headers, ight and heavy: Nut Tappers, a complete assortment; Cold Headers for Rivets, Store Bolts, &c.; Hot-pressed Nut Machines, 3 sizes; Washer Machinery, and every variety of tool used in Bolt and Nut Shops. The only specialists in line in the United States.

Address

THE NATIONAL MACHINERY CO., Tiffin, O. Catalogues sent free to any address.

Tiffin, O. Catalogues sent free to any address.

ROLLING MILL PROPERTY For Sale at Low Figures.

The Rolling Mill at Poughkeepsie, N. Y, with
the entire plant and machinery, about 15 acres of
land, large and valuable water front, with substantial wharf. One of the best locations in the
country for manufacturing.

Apply to

W. S. JOHNSTON, Trustee,
Poughkeepsie, N. Y.

For Sale.

No. 6 Sturievant Blower and Countershaft.
6 Blake Steam Pumps. Good as new.
Nos. 3, 4 and 5 Phila. Hydraulic Works Steam
Pumps.
Belt Pump for Hydraulic Press.
Heald & Sisco Centrifugal Pump, 4-in. discharge.
Small Steam Blowing Engine.
A. G. BROOKS & WINEBRENER,
26t N 2d St., Philadelphia.

For Sale.

MACHINES FOR MAKING PICKS, MATTOCKS AND AXES,

With Solid Punched or Adze Eyes.

T. & CO., Box as. Office of The Iron Age, 83 Reade st., New York.

For Sale.

To a competent Mechanical Engineer, with experience in managing Machine Shops, an interest in the Omaha Foundry & Machine Co., at Omaha, Neb. The largest and best equipped shops in Nebraska, with a splendid trade and no local competition. Address T. W. T. RICHARDS, Omaha, Neb.

For Sale.

A well established Hardware Store and Tinware Business in Central Pennsylvania. Stock clean and in good shape. Will invoice about \$5000. Good reasons for selling. None need answer but those meaning business.

119 N. Third street, Philadelphia, Pa.

CORNELL UNIVERSITY.

COURSES IN

Mechanical Engineering, Electrical Engineering, Civil Engineering and Architecture.

ENTRANCE EXAMINATIONS BEGIN AT

9 A. M., JUNE 18 and SEPT. 18, 1883. For the University Register, containing full state-most are garding requirements for admission, courses of study, degrees, honors, especies, free scholarships, etc., and for special information, apply to The Pres-torest of Cornell University. Habon, N. Y.

Wanted.—The Agency of Hardware and Iron Goods, to sell by sample or photograph, on commission in Chicago and vicinity.

"IRON."
Office of The Iron Age, 36 & 38 Clark Sa. Chicago, Ill.

Trade

BRITISH IRON AND METAL MARKETS.

[Special Cable Dispatch to The Iron Age.] LONDON, WEDNESDAY, June 13, 1883.

Scotch Pig.-The market is weaker and prices have further declined. The following are to-day's prices for makers' brands. Coltness, alongside, Glasgow.... Gartsherrie, Summerlee, Carnbroe, Ardrossan..... Glengarnock, " Eglinton, "Dalmellington, "

ping ports:

at Leith.

Lighterage from Ardrossan to Glasgow is 1/ P

C. Hematites 50/@ 51/ for mixed lots Nos. higher prices. Central New Jersey, Louis-1, 2 and 3, equal parts, f.o.b. shipping ports. ville and Nashville and the Western Union Blooms-Nominal.

little steadier. We quote at works, nomi- the company had been discontinued. The

		£		d.	£	6.	d
	Staff. Ord. Marked Bars	7	10	00			
	" Medium "				7	0	0
	" Common "	6	0	00	6	10	0
	Hoops, 20 W. G. and over.						
	" Common Best	7	5	00	7	15	0
	" Medium	5	10	00	6	15	0
	· Common	6	5	00	6	80	0
Ì	Sheets, 22 W. G. and under.						
Ì	" Ordinary Best	9	10	00	10	10	0
1	" Common	7	IO	00	8	0	0
1	Welsh Bars	5	10	00	5	12	6

Steel Rails.-The market is firmer. We quote Ordinary Sections, £4. 15/ @ £5, f.o.b. shipping ports.

Iron Rails-Dull and nominal. Welsh, 30 lb and upward, are quoted, nominally, £4. 15/ £5. 10/, f.o.b. shipping ports.

Old Rails.—The market is irregular. We quote Old D. H.'s, c.i.f. New York, £3. 12/6 (d) £3. 15/.

Scrap.-The market is a little firmer. We quote Heavy Wrought £3. 2/6 @ £3. 5/, c.i.f. New York. We are reported a sale of Wrought Scrap for prompt shipment to the United States at 57/, f.o.b. shipping ports. Bessemer Crop Ends are quoted 60/@62/, f.o.b. shipping ports, for run of the mill.

Copper-Is steadier. Best Selected is quoted £69 @ £70, and Chili Bars, £63. 15/

Straits Ingot, spot, £93. 15/@ 94. 5/, and @ \$4.88 \\ futures, £94. 10/@ £95. 5/.

The ban

Tin Plates .- The market is steadier. We

quote:	10 X 14	ed ad	10	Coke18/	6 68	19/
65	45	ad	08	**16/	0	16/6
Spelter	-Is	firm	er.	Ordinary is	que	oted

£15 @ 15. 5/ at shipping ports. Lead-Is weak. We quote Common Engish Pig £12. 15/@ £13.

Freights.-Steam from Glasgow to New York, 7/6; Liverpool to New York, 6/@ 8/; Liverpool to Philadelphia, 7/6 @ 8/, and London to New York, 7/6 @ 9/6.

FINANCIAL.

Office of The Inon Age, Wednesday Evening, June 13, 1863.

In a survey of the several departments of week. Nevertheless, the general tone is importations since the 1st of January commore confident and hopeful. Fine weather throughout the agricultural region has a cheering effect, and the formal in the past importations since the 1st of January compare as follows with the movement during the corresponding period last year: cheering effect, and the favorable exhibit of railroad earnings shows that a very fair dis- Gold ... tribution of merchandise is in progress. The only real ground of complaint is found in the meager profits of business, which could hardly be otherwise, after several months of gradually shrinking values. That a comparative state of inaction should exist pending the changes of tariff to take effect July 1st is but natural, and quiet in trade circles is the usual expected accompaniment of the warm season. In the money market there are no symptoms to excite disquietude, capitalists and institutions alike being plethoric with loanable funds, while the associated banks are strongly fortified in their resources. The supply of cash in hand is \$7,500,000 greater than one year ago, and the line of deposits is some \$14,000,000 in excess, while the aggregate of loans is but slightly increased. On the other hand, the present condition of the export market is not altogether propitious, the outward movement of grain being checked by speculative causes, so that, as lately noticed by a leading banker, not a single bushel of this class of freight was in course of shipment, as against 130 vessels in port loading with cereals one year ago, and this notwithstanding there remains in the country of the crop of 1882 more than double the quantity as compared with the corresponding period of last year. At the present writing, foreign markets give further evidence of weakness, while wheat-ex-WANTED. SITUATION.—A practical, educate of Cosmist desires a permanent situation. In a thorough analyst, able to make reliable and complete analyses of all masterists extering into the manufacture of trom and steel. Has had six years' experience. Advances Malwater Building, Cleveland, Ohio.

Malwater Building, Cleveland, Ohio.

forward than one year ago, the policy of contraction that has been so marked a feature during the past season being still in favor. It is just now a grave question whether the shutting down of the woolen mills will become general enough to afford the desired relief. In breadstuffs and provisions alike the market is depressed and trade light. Business failures throughout the country continue numerically about as for some time past, and more than in the corresponding weeks of the last two years. Accounts per mail respecting interior trade, particularly in Western cities, show that business is fairly active.

On the Stock Exchange during the week under review the market has shown more buoyancy than before for a long time, atbuoyaney than before for a long time, at-18/6 tributable to good harvest prospects, liberal .48/6 railway earnings, the improved condition of 60/6 the London market, and more favorable accounts respecting general trade outside of the iron interests. The coal stocks were at steadier. We quote as follows, f.o.b. shipfollowed a denial of the reported coal com-Middlesboro' No. z Foundry 43/6 bination, to which were added rumors of trouble between the trunk line railways. Bessemer Pig.-There is no change, the brokers had suspended. On Tuesday the market continuing irregular. We quote W. course of speculation was again in favor of were all strong and active, the latter Manufactured Iron.—The market is a on reports that suits commenced against bulk of the business, however, was confined to room trading. To-day the market gathered strength from the time of opening, and became buoyant at the close, partly due to the good financial statement from Western Union. The most active stocks were: Lake Shore, 7/4 to 1121/4; Louisville and Nashville, 1/4 to 541/4; Western Union, 1/4 to 88; Michigan Central, 1/4 to 9814; N. Y. Central 34 to 12456; Burlington and Quincy, 36 to 12636; Lackawanna, 1/2 to 1293/2; Reading, 1/2 to 603/4. The general result of the day's business was an advance of 1 @ 2 per cent. for the day on the stocks above named and several others. United States bonds were firm, closing as

follows: Bid.
S. 5'a, 1881, continued at 3!4. 10.3/4
B. 4½'a, 1891, registered. 11.2/3
B. 4½'a, 1891, registered. 11.2/3
B. 4½'a, 1997, registered. 11.8/3
S. 4'a, 1997, registered. 11.8/3
S. 4'a, 1997, coupon. 11.0/3
B. 3 per cents. 10.3½
B. Currency o'a, 1895. 128
B. Currency o'a, 1895. 128
B. Currency o'a, 1897. 129
B. Currency o'a, 1898. 139
B. Currency o'a, 1898. 139 State bonds receive little attention. The

latest sales include Tennessee 6's at 40, and Arkansas 7's at 55.

Sterling exchange is firm. Posted rates ## 264. 5/.

Were \$4.86 and \$4.89½; actual rates, 60 days, \$4.85¼ @ \$4.85¾; demand, \$4.88½

The bank return for the week shows a decrease of \$2475 in surplus reserve, which now stands at \$9,069,175, against \$5,135,325 at the same time last year and \$8,805,300 at the corresponding date in 1881. The following is an analysis of the bank totals of this week, compared with that of last week :

June 2. June 9 Comparisons
Loans ... \$317,574,800 \$321,136,600 Inc. \$3,50,800
Specie ... 62,251,500 61,550,000 Dec. 700,600 Specie. Legal tenders 24,552,500 26,641,000 Inc. 1,788,500 10tal Pe-Berve.... 86,804,000 87,801,900 Inc. 1,087,909 Deposits... 210,929,400 315,290,900 Inc. 4,361,500 Reserve re-quirad Reserve required.... 77,732,350 78,832,725 Inc. 1,090,375 Surplus reserve.... 9,071,650 9,069,175 Dec. 2,475 Circulation, 10,021,100 16,941,800 Dec. 79,500 The Phenix Caster Co. make the follow-

According to the Custom House reports, the importations of specie and bullion at this port during the week ending June 8 were ult.; \$26,144, consisting of \$4993 in gold and business and finance, few positive indications \$21,151 in silver, as against a total of \$62,096 of improvement are noticed within the past for the week ending June 10 last year. The

Since January 1-

house. For 11 months ending May 31, 1383, the total imports were \$430,697,625, imports and exports of the whole country stood as follows:

Ten months. \$677.426,770 \$737.738.673 634,189,007 628,498,625 Total exports.
Total imports Excess of experts...... \$43,017,673 \$109,240,048

\$4,034,731, when nearer \$10,000,000 were

were as follows:

Amie																										7			8
Alice									0. 1		٥	0	0.1	D,					0		۰	0		0			3	. 3	5
Alta. Mo	n	8.	 											0.			0			,		0				8			6
Belle Isl	В.		 		۰													0				0			4	19			0
Bodie														0	0					0						8	1	. 0	5
Buiwer				0			 		 			0				9.1				,					6	3			
Hassick			 					,	0			×		۰	0			0	0	0		0	3						93
Bradsha																									9	6		3	19

Caled's B. H	1.00
Chrysolite	1.20
Central Ariz 30	
Dahlonega	198
Dunkin	23
Decatur 4	3
Eureka Con 4.00	4.75
East. Or	35
Elko Con	7.3
Findley	10
G. Prize 25	
Gt. Eastern.	2
Gr'n Mtn 74	
Gold Stripe	

Horn Silver	616
Hibernia 3	
Hortense	3.7
Independence	62
Iron Silver 2.85	2.00
Lacrosse	13
Leadville, Con	68
L. Chief 50	55
Navajo	3.75
N. Standard	/3
N. Belle 61	
Pipe Line cer	
Rappahannock	7
Robinson Con	
Red Elephant	
Sierra Nevada	4
Standard 53	4
Sierra G 1.97	1.45
Sutro Tun.	27
Silver King	
Stormont48	35
Sonora Con	20
St. L T& 4 3	29
St. L. 2 & 3	7
Unadilla	

GENERAL HARDWARE.

Business is going on quietly in a fairly satisfactory manner for the season. In regard to prices, there is little of interest transpiring.

Nails may be reported as decidedly scarce and stocks here are very much broken, so much so that there is a good deal of difficulty in filling orders. The home demand is active, and there has been, besides, a considerable business done with California, as well as to some districts in the West and South usually supplied from the Western market. Most, if not all, of this outside demand came from the anticipation of a strike in the Western mills, and many orders were countermanded when it was discovered that there would be no strike, but still enough Nails have been actually shipped to raise this market from the depression which prevailed a few weeks ago to a position of great firmness. The price is \$3 to the trade, and this is so firm that it would be almost impossible to obtain a concession on the most desirable order.

The Stanley Works, New Britain, Conn., have purchased the entire stock, machinery, tools, patterns, &c., formerly owned by the Security Blind Fast. Co., of Providence, R. I., and will continue the manufacture of these goods, adding to the line from time to time as may be considered desirable. They say that as soon as possible they will issue a price list, with illustrations of these goods, for the use of the trade. In the meantime they will undertake to fill orders promptly, at favorable rates. Mr. Thos. Corscaden, of the Security Blind Fast. Co., will be con-nected with the Stanley Works, and will attend to the wants of the trade in regard to these goods, which may be found in stock at the factory, New Britain, Conn., or at the warehouse, 79 Chambers street, New York.
The John H. McGowan Co., of Cincinnati,

ave issued a circular, in which they say ; "Owing to the financial troubles of a concern whose name is frequently confounded with ours, causing our customers and us so much trouble and annoyance, we have deemed it necessary to issue this circular, setting forth these facts, viz.: That we have no suits against us, no judgments rendered against us, and never gave a mortgage or bill of sale." In conclusion, they request

ing reply to the letter of the Yale Caster Co., which appeared in our issue of the 31st

Indianapolis, Ind., June 5, 1881.

To the Publisher of The Iron Age: We do not desire a newspaper controversy, for it settles nothing, but the card of the Yale Caster Co., published in your issue of May 31, is of such a character as to require a reply from us. It is full of false statements. The suits brought by us were not "mere farces brought against straw parties," nor The greatly reduced imports at New York dealer of this city, who was selling an extension Stove Truck with a two-wheeled Caster last month show the effects of depression in general business, as of the impending change in the scale of duties, the total being far below formed that his attorney wrote the parties the corresponding total of either of the preceding three years, and of the dutiable goods nearly one-half went into the bonded warehouse. For 11 months ending May 31, and defend, and agreed to extend the 1883, the total imports were \$430,697,625, for answer 30 days if they would defend the suits, and notified them that if they did same period \$354,555,855. For the 10 not we should take it as concession that their months ending with April the comparative Trucks and Casters were infringements of our patents. Schenck & Co. declined to defend their own customer, even when thus expressly invited to do so. The case was heard before Judge Drummond, and on the hearing full-sized specimens of Schenck & Co.'s "Gem Stove Truck" and Schenck's Double-wheel Caster, precisely like the Caster advertised by the Vale Caster of the second secon The excess of exports in April was only tor advertised by the Yale Caster Co. in 4,034,731, when nearer \$10,000,000 were your columns, together with all of Schenck's patents, Martin's patent and Woodruff & expected, and the May imports have been so Tucker's Stove Truck patents, were offered small that an excess of \$10,000,000 to \$12,small that an excess of \$10,000,000 to \$4.5, occ,000 of exports ought to have been secured, bringing the balance of trade in our all these things, including the notices to Schenck & Co. to come in and defend. It The closing quotations for mining stocks were as follows:

Bid. Asked.

17 18 Schenck & Co. to come in and detend. It is in bad taste for Schenck & Co. to cry "farce" after such a showing. Another thing—the Yale Caster Co. in the content of the c

case "was patented in 1881 and abandoned nearly two years ago." Schenck's patent on a two-wheeled Caster, like the one shown in their advertising cut, bears date Nov. 29, 1881, and is numbered 250,290. This Caster,

the Yale Co. say, "was abandoned nearly two years ago.' sale, then ! Why do they advertise it for

They say further: "Our Yale Caster "

* is made under patents of Oct. 9.
1877." This is important, if true. But upon turning to the Patent Office Gazette we find that but two-patents were issued for furniture 9, 1877, and both are singlewheeled Casters, or, rather, one is a single wheeled Caster and the other is a single-ball Caster. If the Yale Caster Co. make Casters with single wheels, or socket balls, they may do so to their heart's content, but

Haven allies have had a fair chance and full notice to defend their customers in two suits and they failed to make such defense, and it won't do for them to commence to make faces in the papers over the legitimate re-

acces in the papers over the legitimate results of their own negligence or cowardice.

And here we stop, remarking that any further controversy with Schenck & Co. or the Yale Caster Co. will be in a different forum, and one where they have already twice declined to meet us, viz., the States Courts. Yours respectfully, the United

THE PHENIX CASTER CO.

IRON.

American Pig.-During the week since our last there have certainly been larger sales than during any equal period for a long time past. There is a good deal of inquiry from consumers, a majority of whom feel willing to forestall their season's requirements at present prices. These are indeed so low as to be below cost to a very large proportion of furnaces, many of which find it to their interest to blow out. It is reported that on the Lehigh, Schuylkill and Susquehanna 62 furnaces out of a total of 140 are out of blast. These furnaces will probably average a capacity of 250 tons a week each. The Thomas Iron Co. report sales during the week for season delivery aggregating about 8000 tons, at \$20 and \$19 for Nos. 1 and 2 Foundry, respectively. They are still confining their sales to those whom they consider their regular customers. We quote Foundry No. 1, \$20 @ \$21; Foundry No. 2, \$18 @ \$19.50; Gray Forge, \$17.50 @ \$19 at tidewater.

Scotch Pig.-The low price of American Pig has naturally the effect of lessening the demand for Scotch, but arrivals are taken up about as fast as received. Prices are practically unchanged, as any decline in the Glasgow market has been fully made up by an advance in freights. We quote: Eglinton, \$21.25 from ship, \$22 from yard; Carnbroe, \$23 from yard; Glengarnock, \$22.50 @ \$23 from ship and yard; Dalmellington, \$21.50 @ \$22 from ship; Summerlee, \$24 from ship; Coltness, \$24.50 @ \$24.75 from

supplied with orders as to be reluctant to make further engagements; \$38 at mill re mains the usual price.

Old Rails,-The market continues depressed and without animation. We quote, nominally, \$22 for Ts.

Bar Iron.-The volume of business doing in Bar Iron continues to be small and in meager quantiti s. Consumers have little confidence in the present condition of the market, and do not auticipate their wants. Manufacturers are anxious to sell, and are offering to discount to-day's quotations for orders to be delivered before the 1st of July, which keeps prices very weak and unsettled. Dealers are looking forward to the suspension of some of the mills for repairs, and the usual curtailing of the production during the next two months on account of the heat, as a reason for expecting a stronger market in the course of a few weeks. We continue to quote Refined Iron from the mills at \$2 @ \$2.25, from store at \$2.30 @ \$2.40, and Com-Brass goods.... mon at \$2.10@\$2.20.

Scrap Iron.-We are unable to report anything new in this line of trade. Business continues dull and prices nominal, which we quote as follows: Selected Yard Scrap at \$25 @ \$26, ex-store at \$24.50 and ex-ship We note the sale of 750 tons ex ship at \$23 50, and 250 tons on private terms.

METALS.

Copper.-During the week under review the Lake companies sold 20,000,000 lb. at 15¢ for export and to manufacturers, deliverable to the end of the year. Since ther the market is quiet at 15¢ @ 15¼¢ for Lake and 14¢ @ 15¢ for other brands. London was unchanged yesterday. To-day we are cabled from there to the following effect: "Copper is steadier. Best Selected, £69 @ £70, and Chili Bars, £63. 15/ @ £64. 5/. Messrs. James Lewis & Son, Liverpool, June 1, write: "We are now receiving large quantities of Argentiferous Coppe Ores and Matte from Montana. Of the former we recently completed a contract for about 6000 tons, delivery to be spread over 12 months, and are now in treaty for a further 2000 to 3000 tons. We have also made large sales of Matte from Montana. Last week we sold 280 tons for immediate shipment from New York at a very full price. The course of the Copper market now depends almost entirely upon the supplies we may receive from the United The recent advance in the price of Ingot Copper, chiefly caused by the strong speculation for a rise, in the course of which all the spot Bars offering at current rates have been bought up, is apparently being counteracted by sales for forward delivery."

	CHILEA	N EXPORT TO	MAY 27.	
1879. Tons.	1880. Tous.	Tons.	1652. Tons.	1883 Tone
24,350	24.277	17:410	39-357	18,87

_							-
v	ISIBLE	SUPPLY	ENGLAND	AND	PRANCE,	JUNE	1
	Ton	3.	1892.			91.	
	48,5		Tons.			ons. .746	
	8	PANISH	EXPORT F	IRST			
			788 T.		1882.	18	8

Tons. 147,078 6,130 Bottoms, 24¢; Braziers, 24¢; Sheathing, 22¢, and Bolt Copper, 24¢. These rates, we presume, may still be shaded.

Tin.—London giving way to £94 with Straits Tin, there has been more disposition we propose to protect ourselves against any infringements of our rights.

Messrs. Schenck & Co. and their New than 211/4 ¢ cannot be obtained for large lots; than 21 ½¢ cannot be obtained for large lots; in a jobbing way it brings 21 ½¢; L. and F. may be quoted 21 ½¢. From London we are cabled this afternoon as under: "The marketic interpolation of the capture of the capt ket is irregular. Straits Ingot, spot, £93. 15. ket is irregular. Straits Ingot, spot, £93. 15/ @£94. 5/, and futures, £94. 10/ @£95. 5/." Messrs. James Lewis & Son, Liverpool, June 1, say: "Tin has varied in value be-tween £95. 15/ and £94. 15/ during May, closing at £95. 10/ for Straits and Austra-lian." Tin Plates.—Buyers generally hold off for the moment; a good trade is antici-pated for July but prices for delivery then pated for July, but prices for delivery then do not show the duty reduction of 11¢ ? do not show the duty reduction of 11¢ † box. We quote on a steady market, large lines, ordinary brands, † box: Charconl Bright, \$5.75 @ \$6.25; do. Ternes, \$5.12½ @ \$5.27½; Coke Tin, \$5.12½ @ \$5.25; and do. Ternes, \$4.87½ @ \$5. Liverpool was yesterday very steady; Coke at 16/ and Charcoal at 18/6 @ 20/. We are told from London per cable to-day that the market is steadier.

> Lead.-Sales have been effected during the week of 300 tons Aurora Corroding at \$4.42½, and 300 tons Common at the same figure. The actual price for both is \$4.40 @ \$4.50. Consumers, though well stocked for the present, are quite willing to buy for July, August and September delivery, but holders do not seem inclined to meet their views as to prices; hence little transpires. There is every chance of the price not varying much for some six weeks to come; this, at least, seems to be the general impression. In St. Louis, meanwhile, quite a business has been transacted at \$4.15 @ \$4.20, at which 700 to 800 tons Corroding sold; Common commands there as much. Freight mon commands there as much. Freight from East St. Louis, 30¢. From London we are wired as follows to-day: "Lead is weak; Common English Pig, £12. 15/@£13." Messrs. James Lewis & Son, Liverpool, June 1, say: "We quote; £12. 17/6@£13 for English, and £12. 12/6 ? ton for Spanish." Spanish.

SPANISH EXPORT—FIRST QUARTER.

	1881. Tons.	1882. Tons.	1883. Tons.
Pig Lead			#9.534
Manufactures are	quoted	as follows	: Lea
Pipe, 61/4; Sheet			
Lead Pipe, 15# 78			
45¢, less the usual d	liscount	to dealers	

Spelter and Zinc.-The same dragging ort of a state of affairs heretofore noted ship; Cottness, \$24.50 @ \$24.75 from ship; Gartsherrie, \$25 from yard; Langloan, \$24.50 from ship.

Steel Rails.—No important transactions are reported; indeed, the mills are so well

some Common Domestic Speltar offering very low. We quote the market \$1.60 @ \$4.70 for Common Domestic, and Silesian, 5 @ 51%\$\phi\$; Bertha Refined, 73% @ \$\phi\$, and Bergenport, 9%\$\phi\$.

SPAN	ISH CALAM	INE EXPORT	-FIRST Q	UARTER,
	881.	1882.		1883.
T	ORS.	Tons.		Tons.
9	100	8616		4502
From	London	we recei	ve this	afternoor
the er	suing ca	blegram:	"Spelte	er firmer
		£15.5/. 8		

Sheet Zinc is quiet at 6¢ @ 61/6. Antimony-Has remained quiet; Cookson At \$10.70, and Hallett at \$0.70. Messrs.

James Lewis & Son, Liverpool, June 1, say :
"We quote French Star Regulus, £39 @ £40

FOREIGN TRADE MOVEMENTS.

The	following	is a summary of	foreig
trade	movements	during the past w	eek :
		IMPORTS.	
979			

1881.	1882.	1883.
Total \$9,307,502	\$7,712.118	\$7,031,370
Prev. reported181,806,595	2.9,882.377	193,593 349
Since Jan. 1 \$191,114.147 Included in the importicles of merchandise ve	rts were l	eading ar-

Pkges. Value

	Bismuth	- 1	4
	Bronges	19	3,9
	Clocks	3.8	1,6
		9	1,8
	Copper	0	31
1	Cutlery	87	36,3
		34	5,00
ı	hardware	7	1,0
١	Iron, pig, tons	2,698	30.1
١	Iron, sheet, tons	60	4,8:
ı	Iron ore, tons	836	6:
ı	Iron, other, tons	40	2,75
1	Machinery	178	7.9
ı	Metal goods	308	12,05
į	Nails	970	4,23
I	Needles	6	3,53
ł	Nickel		2,8
I	Old metal	0.11	3,54
ı	Plated ware	4	21
Į	Per. cape	80	3.90
ı	Pins	2	30
	Plumbago	3,639	90,00
l	Saddlery	34	8,57
Į	Steel	16,003	161,13
ì	Spelter	18.564	11,53
	Silver ore	I.	133
ł	Silverware	6	1,82
ļ	Tin, bxs	37.600	166,88
ı	Tin. 3,557 slabs, 347,026 lbs	271-9-	80,25
Ì		3.056	15,05
l	The quantity of hardway		
ŀ	imported compares with pre		
ľ	unborten combates aim bie	A TOTAL	HILLES &

	CHITCH MINTE			1,51
	I wanted strangers and a contract of the con-		37,690	166,88
	Tin. 3.557 slabs, 347,026	Ibs		80,25
	Wire		3,956	
	The quantity of	Bardy	ware and	metal
	much ar same a complement	with	previous	dates a
	follows:			
		For the	21 Weeks	Same
		week.	of 1383.	
	Cutlery, pkgs	87	3.159	
	Hardware, pkgs	7	649	
	Iros, R. R., bars	,	6 040	
	Land nime	0 * 0	6,324	
	Lead, pigs		3.847	16.544
	Steel, pkgs	110,9:3	1.740,355	917,354
ı	Tin, bxs	37,000		975.001
1	Tin slabs, lbs	347,026	9,583,898	7.755,633
I	EXPORT	S OF SP	ECIE.	
1	For the week ende	ed June	9:	

	Total Previously re	ported					 		 	\$99,82 6,511,01
	Total since Ja	DUALY	I,	3	88	3-	 			\$6,610,83
	Same time in	1884								31,673.00
	Same time in	1881								5,147,00
1	Same time in	1880								4,251,38
	Same time in	1879								80,765,06
	Same time in	1878							0 0	8,510,93
1	Same time in	1877								17,791,73
1	Same time in	1896							2.0	36,826,48
1	Same time in									48,803,78
	Same time in	1874								25,656,100
	Same time in									74,922,14
	Same time in	2072								22,682,68

EXPORTS EXCLUSIVE OF SPECIE

1881. Total\$8,048,58x Prev. reported162,260,961	\$5,372.476 \$35,064,675	1883. \$5,988,727 151,156,482
Since Jan 1 \$270,309.542	\$140,367,151	\$157,145,209

EXPORTS

Of Hardware, Iron, Machinery, Metals, &c., from the Port of New York, for the week ending June 12, 1883.

Bremen.			ian.	V
0	Val	Pumps, pkgs.	4	
Quan.		Cutlery, pkgs	9	
Ptl.,gls1,258,508 \$1	04.797	Tin plate, cs	- 6	-
Napthgls.229,500	15.750	Sew. ma., ca.,	74	,
Ag. imp., pkgs 18	1,219	Mach'y, pkgs.	600	
Sew. ma., cse. 1	50	Sonles or		=71
Cop. mat.,pgs 123	4,000	Scales, cs	13	
	1,963	Ptim., gls	400	
Hdw., cs 45		Ag. imp.,pkgs	9	
S. rollers, cs. 6	180	Nails, kegs	IOI	4
Mf. iron, pkgs 13	425	Mf. iron, pkgs	281	2,2
Mach'y, pkgs. 21	1,775	Hdw., pkgs	78	1,6
		Clocks, pkgs	16	
Rotterdam.		Conme of	10	4
	-	Gongs, cs	- 32	
Ptlm., gals. 275,000	18,000	Saws, cs	3	1
Ag. imp, pkgs 6	- BI	Nails, hhds	.5	1
Ciocks, pkgs . 3	183	Pins, case	2	
Pumps, pkgs 4	230	Sew.ma.oil, ca	9	
Copper, bars, 536	3,678			
Machine plans, 530	3,070	French West	In	die

Mach'y, pkgs. 8 730 Scales, pkgs. 13 131 Mf. iron, pkgs 11 149 Hdw., cs... 25 615 Copper, casks 18 5,528 121 Mf. iron, case. 1 Havre. Dutch East Indies. Ptm., gals..578,coo 61,995

Ag. imp. pkgs 627 21,793
Pumps, pkgs 4 500
Copper, casks 225 42,750
Scales, cs. 35 1,772
Ptlm., gals. 392,176 29,413
Hdw., pkgs. 2 145
Sew ma., Cs. 176 8,819
Mach'y, pkgs. 3 98 Hamburg. 1,150 3,419 88 San Domingo. Sew. ma., cs.. 10
Tin. bxs ... 10
Nails, kegs... 77
Chain, pkge... 1 3,684 769 60

Nalls, kegs... 70
Chain, pkge... 7
Chain, pkge... 7
Chain, pkgs... 50
Mach y, pkgs... 291 8
Mf.iron, pkgs... 11
Cutlery, cs... 5
Fumps, pkgs... 9
Ftlm...gals... 300
Railroad cars 2
Boilers.... 2
Iron, bars... 334
Ag. imp.,pkge 1 Antwerp. Ptim., gals.439,110 35,100 Copenhagen. Mf. iron, pkgs 8 Hdw., cs..... 2 Amsterdam.

Mexico. Ptl., gls...1,125,904 89,702 Hdw., pkgs... 8 197 Ag. imp., pre. 1 60 Copper, cakes 146 3,604 Copper, casks 18 3,600 Locomotives. 78
Hdw., pkgs... 228
Nalls, cs... 12
Cutlery, cs... 95
Ptlm., gals... 8720
Br. goods, cs... 2
Car wh., pairs 128
Per can cs... 3.789 377 2,040 1,018 181 Christiania. Br. goods, cs. 2 Car wh., pairs 128 Per. caps, cs. 5 Tubes, cs. 8 Scales, cs. 1 Firearms, cse, 1 Mf. iron, pkgs 699 160 Sew. ma., cs., 9 Mach'y, pkgs. 2 70 Gloveester.

Ptlm., gals.201,046 16,800 Clocks, cs.... Pistols & r., cs Liverpool. Gun, case.... x Clocks, pkgs. 198 Copper, slabs 195 Guus, box.... x 125 Sew. ma., cs... Ag.imp.,pkgs. Mach'y, pkgs. Valves, cs.... Needles, case. 9,599 1,000 85 Copper, slabs 125
Guus, box... 1
Cop.mat., sks. 3904
ddw., pkgs... 57
Ag. imp.,pkgs 58
Pumps, pkge 1
Rifles, case... 1
Rollers... 2708 40,000 1,803 1,428 6 Needles, case. Tacks, es.... Railroad cars. Fire engine... Cartridges, cs. Water closets Nails, kegs... Saws, cs... Gauges case. 13-474 135 434 75 320 188 108 Rollers.....2708
Mach'y, pkgs. 30
Stmpdwre, cs. 6
New. ma., cs.. 97
Copper, caaks 45 Gauges, case. Pumps, pkgs. Tinfoul, cs....

London. 140 ng gun.. Corunna. Ptlm., gals. 196,487 17,065 Oporto. Clocks, pkgs. 21
Mf. iron, pkgs 14
S. rollers, cs. 2
Stpdware., cs. 5
Cutlery, cs. 7 175 Genoa Ptlm., gals., 85,845 6,700

Alexandretta. Ptlm.,gals.. 126,380 11,528 Beyrout, Hull. Ptlm., gals. 139,140 12,000 Ag. imp..pkgs 110 5,168 Hdw., pkgs .. 19 525 Tricate. Ptlm., gals.230,400 18,500

Ag. imp. pkgs 1 0 525 Clocks, pkgs 1 841 Mf. fron, pkge 1 14 Iron safe ... 1 70 Br. tubes, pcs.5610 11,500 Mach'y, pkge 1 500 Argentine Republic. Ptlm., gals.139,540 13,431 United States of Co-Limerick. lombia. Hdw., pkgs. . . 121 Mf. iron, pkgs 409 Sew. ma., cs. . . 122 Mach'y, pkgs. . 90 Necdles, pkgs. . 20 Zinc, casks . . 6 Revolvers, cs. 6 Nails, kegs. . . 49 Ag. imp. pkgs. . 49 Ptim., gals. 136,604 11,933 Glasgow. Ag. imp.,pkgs 36 4,536 Sew. ma., Cs., 399 4,586 Wh. metal.cs. 10 400 Mach'y, pkgs 13 2,570 Clocks, pkgs., 68 962 Hdw., pkgs., 13 33 Mf. iron, pkgs 114 2,854 1.544 246 291 254 Ag. imp.,pkgs Lead, cs Scales, pkgs.. Cop.g'ds,pkgs Zlnc, rolls.... British West Indies. Hdw., pkgs... 60 Clocks, pkgs... 6 Cutlery, es... s Mach'y, pkgs... 6 Chain, pkgs... 4 Mf. sron, pkgs... 117 Ag. imp., pkgs... 127 Ag. imp., pkgs... 2, 2720 Sew. ma., 68... 11 Scales... 13 Stpdware., cs. Wash. mach's

wash. mach's Guns, pkgs...
Rifles, cs....
Carbines, cse...
Valves, case...
Tube exp'ders
Petlm., gals...
Cutlery, pkgs...
Iron safes...
Saws, cs.... 354 431 149 2,770 265 186 75 ws, cs..... eel, bol..... Neva Bostia. Mf. iron, pigs 8 121 Prim., gals... 5c0 60 Mach'y, pigs 8 43 Hdw., pigs... 3 55 Tin, pigs... 20 125 Pumps, pkgs.
W. g'ds, pkgs.
W. g'ds, pkgs.
Water closets
Cartridges, cs.
Tacks, cs.
Pistots, case...
Tin, cs...
Shot, cs... British East Indies. Ptlm., gals. 431,860 42,700 British Australia. terial, pkge. Vault door, set Mach'y, pkgs. 18 1,207 Hdw., pkgs... 609 14 474 Pumpe, pkgs... 29 1,370 Axles, CS.... 34 1,995 Pum., gala... 20,640 8,599 Vault door, set Br. g'ds, pags Porto Rico.

Hdw. pkgs... 51
Mach'y, pkgs. s9
Mf. iron, pkgs 9
Mf. iron, pkgs 9
Iron, pkgs... 9
W. closets, pgs 6
Cutlery, case. 1
Saws. case... 1
Ptlm., gals... 13,749
Ag. iron, pkgs Cuttlery, cs... 17 237
Tacks, cs... 4 71
Revulvers, cs. 2 30
Mf. iron, pkgs 152 3485
Cartridges, cse 1 12
Nails, cs... 17 105 Nails, cs..... 17 105 Ag. imp.,pkgs 34 1,288 Nails, kegs.... 408 1,696 Hayti. Newfoundland, Ptim., gals...4835 Spikes, kegs... 10

Hdw., cs..... s Clocks, bxs... 3 Canada. Pig iron, tona. 13 220 Pumpa, pkgs. 3 Mf. iron, pkgs. 14 Nails, kegs.... 20 Pistols, cse... 1 581
British Possessions
Pllm, gals...40,000
Sew. ma., cs... 40 Japan.

Mf. iron. pkgs 84 465 Windmill ma., Hdw., cs. . . . Ptlm, gis. 1,c95,o Quan.
Brass g'ds.cs. 9
Cutlery.cs...221
Scales, cs....4
Needles, cs...3
Buckles, cs...3 Val. Pistols, case. 275 3,403 106 450 75 Scales, cs..... Nails, cs..... Nalls, cs... Pumps, pkgs. Nalls, kegs... Hdw., pkgs... Ag, imp., pkgs Tacka, cs... Cutlery, case. Saws, case... Mf. iron, pkgs Cartridga., es. Tacks, bxs....

75,220 5,220 125 Clocks, pkgs. 40 457 Ptlm., gals.764,600 76,500 Nails. Rogs... 125 410 5,220 Mf. fron, pkgs 50 50 304 C'tridges, cs..1000 35,000 Chill. Petlm., gals. 50,000 W. goods, cs.. 8

IMPORTS

Of Hardware, Iron, Steel and Metals into the Port of New York, for the Week ending June 13, 1883.

China,

Hardware. rier, tens, 100 Spiegel'sen, tns, 1616 Colls of wire, 180 Cases, 125 Borap, bags, 385 Rail ends, tons, 164 Alexandre F. & Sons, Nails, kegs, 38 Allen R. H. & Co. Plows, box, r Baldwin Bros. & Co. Cases, s Cask, r Rail ends, tons, io Wire, cs., 3 Castings, 2 Rods, coils, 64 Ore, tons, 456 Casks, 69 Fish plates, prs., 1 Cask, I
Bruckner, Evans & Co.
Wire net'g, rolls, 630
Bloomfield J. C. & Co.
Mach'y, Ch. 3
Boker Hermann & Co.
Hdw., cutlery
and guns, pkgs, 47
Castle S. A. & Co.
Cases, 4 Bars, 2725 Wire, coils., 682 Rings, bdls., 3 Wire bdls., 44 Rods, bdls., 300 Rail crop ends, tons Cases, 4 Clark J. A. & Co. Mach'y, cs., 52 Curley J. & Bro. Mdse., cs., 3 354 Tons, 1900 Steel. Abbott Jere & Co.

Curley J. & Bro.
Mdse, cs., 3
Delamater C. D.
Mach'y, cs., 9
Duden & Co.
Mach'y, cs., 7
Dracel, Morgan & Co.
Arms, cs., 4
Electrical Mach. Co.
Machines, bxs., 6
Field Alfred & Co.
Cassa, 6 Cases, 63 Rods in coils, bdls., Biake & Bros. Blake & Bros.
Tires, 2
Brown Wm.
Packages, 192
Mayer, Strouse & Co.
Casks, 7
Mclhanny W. H.
Ralls, 1037
Moss F. W.
Bundles, 89
Bars, 29
Plock & Co.
Wire, bdls., 417
Tomiliason Spring Co.
Bundles, 40
Wagner W. F.
Bundles, 822
Bars, 10
Cases, 94
Plates, 28
Order,
Personner and a bille Cases, 6 Cases, 46 Nails, hnds., 3 Chain, cask, x

Chain, cask, i
Frasse & Co.
Midse, cs., 3
Case, t
Hammel L. & Co.
Cask, i
Kuh E. S.
Mach y, cs., 57
Mason Wheel Co.
Mach'y, case, r
Merchants' Dispatch Co.
Cask, z
Arms, cs., 6
Packages, so.
Moore's Sons J. P.
Guns, cs., 4 Order, Bessemer rods, bdls. Moore's Sons J. P.
Guns. cs., 4
Moss F. W.
Files, cks., 7
Newall Universal Co.
Mach'y, pkgs., 50
Pim, Forwood & Co.
Anchors, 13
Scott W. P.
Guns, cs., 4
Sellers Wm. B.
Mdse., cs., 2
Spencer & Underhill,
Cask, 1
Star Union Line,
Mach'y, cs., 8
Straw S. A.
Mach'y, pkgs. and
pcs., 13
Van Nest 13
A. & Co.

Van Nest A. A. & Co.

cago, 2 Packages, 2 Mach'y, bxs., 24 Mach'y, bdis., 3 Casks, 7 Cases, 12

2258
Bars, 24
Bloom ends, tons.:
Bundles, 404
Packages, 30
Rails, 511
Bands, 187
Forgings, 66 Forgings, 16 Rail ends, tons, 630 Wire, coils, 442 Wire, coils, 442 Strips, cks., 47 Tires, 14 Hoops, bdls., 36 Rods, bdls., 10 Scrap, lot Metals,

Armstrong A. C.
Type, cs., 44
Bache Simon & Co.
Tin, cs., 14
Bank of Moutreal, Cases, 2
Vom Cleff & Co.
Ironware, Cs., 13
Witte John G.
Cutl'y & hdw., cs., 16
Wiebusch, Hilger & Co.
Hdw. and cutlery, Bank of Moutreal, Tin, bus., 396 Tin plates, bus., 7757 Terne plates, bus., 47 Baring Bros. & Co. Tin plates, bus., 1500 Bond, Farsons & Co. Black taggers, bus.,

Dkga., 19
Wright Peter & Sons,
Arms, cs., 7
Order,
Old engines for Chi-Tin and terne plates,

Tin and terne plates,
bxs., 2005
Cohn H. H.
Tin leaves, cs., 30
Cort N. L. & Co.
Tin plates, bxs., 2871
Dickerson, Van Dusen
Co.
Tin plates, cs., 1145
Elweil Jas. W. & Co.
Old metal, bxs., 3
Eric and Great Western
Disp. Co.
Tin plates, bxs., 354
Fuote Emerson. Anglo-Am. Roofing Co. Cases. 269 Baring Bros. & Co. Wire, bdls., 5926 Wire rods, bills., 7341 Nail rode, bdls., 7341

Bars, 8746
Brown Bros. & Co.
Wire, bdls., 56t
Coddington T. B. & Co.
Sheets, bdls., 319
Crocker Bros.
Casks, 195
Mang. pig. oks., 108
Pig. tons, 200
Spiegel, tons Nickel alloy, cs., 15 Mdse., cs., 15 Omes & Pearsall Old metal, lot Hunt J. Hunt J.

Lead pipe, cks., 6

Ketcham E. & Co.
Tin plates, bxs., 1170

Lamarche's Sons H.

Rolled sinc, cks., 20

Leayeraft & Co.
Old composition, Pig. tons, 200
Spiegel, tons, 224
Drexel, Morgan & Co.
Pig. tons, 720
Duden & Co.
Old mach'y, cs., 7
Field C. de P.
Oxide, bbls, 15
Hendricks Bros. Old composition,
post, s

post, s

Markt & Co.
Brass, gds., cs., 9

Phelps, Dodge & Co.
Antimony, cks., 40

Tia pits, bxs., 9153

Plock & Co.
Tin, slabs, 1660

Stos & Gill,
Metal, pkgs., 19

Stevenson, Pierson & Hendricks Bros.
Sheets, bdls., 39
Iron Clad Mfg. Co.
Sheets, bdls., 170

Sheets, bdis., 170 Cases, 222 Kelly Eugene & Co. Pig. tons, 100 Metal, pags., 19
Stevenson, Pierson &
Co.
Sheathing, cs., 50
Suafeld, Lorsch & Nordlinger,
Case, 1
Taylor David & Sons,
Antimony, Co., 50 Fig. tons, too
Lee James & Co.
Pig. tons, too
Lundberg G.
Coils, 340
Bars, 23
Nails rods, bdla., sor
Mason J. W. & Co.
Wire rope, coils, 3
Wire rope, reel. r
Merchants' Dispatch Co.
Spiegel, cka., 357
Meyer G. A. & E.
Oxide, bbla., 200
Naylor & Co.
Epiegeleisen, cks, 270
Selkgman J. W. & Co.
Rails, 800
Black plates, bxs., 262
Stetaon G. W. & Co.
Pic. tons, 100
Welsh & Son.
Wire, coils, 179
Williamson Jas. & Co.
Pig. tons, 410
Wolff H.
Scrap, kg., 60,960 Lee James & Co. Antimony, cs., 50 Toplitz & Co. Old metal, bales, s Old metal, bales, 2
Order,
Tin plates, bxs.,
Tin slabs, 2303
Tin, bxs., 880
Tin leaves, cs., 4
Spelter, ingots, 3503
Tin, france, cs., 4
Tin figots, 600
Tin aheets, cs., 47
Tin and terne plates,
bxs., 3305

Quicksliver, bottles, Old sine, pkgs., 105 Old sine, bags, 161 Zine clippings, ck,12 Zine, cks., 73 Scrap, kg., 60,960

COAL

In the Anthracite Coal trade there is a In the Anthracite Coal trade there is a better tone, the leading companies all reporting more business. It is now claimed that prices are pretty well maintained. At the office of the Pennsylvania Coal Co. it was said yesterday afternoon that, contrary to the previous plan, there would be full time at the mines the coming week, in consequence of the improved demand. Commission houses handling the best Hard Coal said they had all the orders they could fill—in fact, were receiving no more at present—and that prospects were now good for a fair

Contradictory reports are rife respecting a contemplated combination in the Anthracite trade, but all are discredited at headquar-Val. 1,700 25 1,450 ters.

OLD METALS, PAPER STOCK, &c. 2,320 70 20 The purchasing prices offered by dealers are as follows:

\$.12\frac{1}{2} @ ... 10 @ .. Copper, beavy......
light.....
Copper Bottoms...
Yellow Metal.... .13 .101/4 .101/4 .68 Yellow Metal
Brass, heavy.
" light
Composition, heavy.
Lead, heavy.
Trea Lead. .33 Zinc Pewter, No. 1... Pewter, No. 8.

"No. 8.
Wrought Iron. # ten.
Light
Stove Plate. # 13.00 12.00 15.00

No. 2
Seconds
Seconds
Soft Woolens
Mixed Rags
Gunny Bagging
Jute Butts
Kentucky Bagging
Book Stock
Newspapers
Waste Paper and Scraps
Kentucky Bale Rope

PHILADELPHIA.

Office of The Iron Age, 220 South Fourth St., PHILADELPHIA, June 12, 1883. Pig Iron.-The market has been rather

quiet during the week past, and, while prices are fairly steady, it cannot be said that there is any improvement. On the contrary, consumers show no more disposition to increase their orders than they did when prices were higher, so that the majority of sales have been of moderate-sized lots to cover early been of moderate-sized lots to cover early requirements. Reports of many furnaces going out of blast are current in the trade, and while it is expected that a largely reduced output will have a tendency to strengthen the market, it is evident that prices cannot be talked up, and no permanent improvement need be looked for until supply and demand are more in proportion than they are at present. If talk would do it, furnaces would not be likely to go out at all, se that the trade are waiting for accomplished facts, and the most stubborn fact at the moment is that supplies are excessive. It is reasonable to infer, however, that at prices now current a good many furnaces will have to blow out, in anticipation of which it is not improbable that the demand for certain brands may be large enough to keep prices steady at something near the figures now quoted. Others may go lower, and, as a matter of fact, we hear of consaid, as a matter of rate, we hear of concessions on \$20, delivered, for No. 1, and \$19 for No. 2 Foundry, although, as a rule, \$19 and \$20 are firm quotations for Lehigh brands, with 50¢ @ \$1 more on small Lehigh brands, with 50¢ @ \$1 more on small lots. A few choice brands still command \$22 at furnace, but these cannot be said to be on the market, as they are regularly taken for special purposes, and at a premium of \$1 @ \$2 \$2 ton beyond what is usually quoted. Taking the demand for Foundry Irons as a whole, the market may be called dull, irregular and slightly weak on all except a few favorite brands. Mill Irons are comparatively steady, with \$17 on cars at furnace as a minimum quotation, one 2000-ton lot of a Lehigh brand having been placed at that figure. A considerable number of at that figure. A considerable number of sales in smaller quantities have been made at \$17.50, however, and \$17 @ \$17.50 may be called firm market prices, according to quantity and brand. Choice makes are held at higher figures, say, \$18 @ \$19, and are not in particularly large supply. On this class of Iron no material change in values is looked for, in view of which consumers are taking hold with some degree of freedom. White and Mottled Irons are rather plentiful and have been sold at prices ranging from and have been sold at prices ranging from \$15 to \$16.50, f.o.b. cars at furnace

Bessemer Pig.—There are some indica-tions of a revival in the demand, but prices are so low that it is impossible to make con-cessions unless there is a decline on freights. Buyers are exceedingly cautious, however, and, while there are offers of \$21 for 5000-ton lots, it is probable that the demand would soon die out if sellers were to quote \$21. Latest transactions were at \$21.25 and \$21.37½, at which we quote the market very quiet.

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Spiegeleisen. -There is a limited d for 20 % at about \$31, but sellers are asking a trifle more, say \$31.25 @ \$31.50. Crop Ends.—Sales 750 tons, New York shipment, at \$23.50. Market steady.

Muck Bars .- Fair demand at unchanged

prices, say \$34 @ \$34.50 at mill, according to quality.

Blooms.—Market quiet; prices irregular at the following prices asked, vis.: Charcoal Blooms, \$59 @ \$61; Run-out Anthracite, \$50 @ \$62; Scrap Blooms, \$45 @ \$46; Northern Ore Blooms, \$43 @ \$44.

Bar Iron.—The market has not been particularly active, but in anticipation of a short suspension during next month there has been a fair demand to fill up assortments. Large lots are seldom asked for, and prices are a shade easier on desirable orders. Prices cover a wide range, according to quality, specification, size of order, time of delivery, &c. Common Iron is quoted 1.8¢ @ 1.9¢, but there is very little business at 2.2¢, and a

and that prospects were now good for a fair ment business looks a little brighter. The business through the remainder of the demand has been moderately active for two eason.

Bituminous Coal continues dull, and prices but have filled in three or four weeks' work are very low, say \$4 alongside, and \$4.15 on or more. Besides the demand for the ship board; about \$3.75 is the lowest.

Tank Iron have been placed, and a very respectable amount of business from the general trade. Prices may be called fairly steady, although some parties claim that orders have been accepted at unnecessarily low figures. On the whole, the Plate mills may be said to have slightly improved their position within the week, and, while special orders have been taken at 10¢@15¢ below orders have been taken at 10ψ $(15)\psi$ below quoted rates, small lots still command last week's prices, say: Tank Iron, 2.4 ψ (2.5ψ) ; Shell, 3ψ (3.25ψ) ; Flange, 4ψ (4.25ψ) , and Fire Box, 5ψ $(6.5.25\psi)$.

Structural Iron. - An active business has been done during the week, and in addition to numerous small lots a contract for a bridge for the Northern Pacific Railway has been closed which will require about 2000 tons of Iron and Steel. A contract of similar character has also been closed with a Detroit company, for which about 800 tons will be required. The mills are now in good position, and as other contracts are conposition, and as other contracts are considered due within 30 or 40 days, manufacturers are disposed to hold prices steady. The usual rates are as last quoted. Angles, 2.3\$\psi\$ @ 2.4\$\psi\$; Tees, 2.3\$\psi\$, and Beams and Channels, 3.5¢.

Sheet Iron. - The demand during the week has been quite active, especially when low quotations have been made. In some cases there has been a slight improvement from the extremely low rates of two or three weeks ago, but manufacturers are still disposed to make liberal terms to large buyers. Small lots are quoted as before, say:

Common Sheets, No.	30	00001			0	0.0	0 0	0 0	9.0	0 0	477
Common Sheets, Nos	. 26 B	nd 27					0 0				434
Common Sheets, No.	21 60	25				0 0		0 0	0 0		4
Common Sheets, No.	18 to	20,			0.1						334
Best Refined, %	advs	nce	on	th	10	8	bi	0V	e		
Best Bloom Sheets, !	10. 26	to al	B		0.1				0 4		63/4
Best Bloom Sheets, I	O. 22	to 25	5					0 0			63
Best Bloom Sheets, h											
Common Red Plates,											
Best Ploom, Galvanii	red, d	ISCOL	int						0.4		40
Second quality, disco	ount					0 0	0 0		0.1		50

Wrought Iron Pipe.—Demand continues light, but prices show no further weakness. Manufacturers consider the outlook fair, al-Manufacturers consider the outlook fair, although it will probably take some little time at least to develop anything like a brisk demand. There appears to be little disposition to force business at current prices. We continue former quotations: 57½ \$ @ 60 \$ off list price on Boiler Tubes, and 70 \$ off on Gas and Steam Pipe. On special sizes further discounts could be had according to size of order.

Steel Rails .- The market has been sin gularly uniform for several weeks past, and there is but little of interest to report. For early summer the mills have about all the business they can handle, so that prices are held with great firmness. A few orders are being entered for late summer at about \$38, with a considerable demand at \$37 @ \$37.50. These figures would probably be accepted for winter, but it is difficult to place orders at less than \$38 for anything deliverable this side of November. Light Rails are in very active demand, and are quoted all the way from \$40 to \$43 at mill, according to

Old Rails.-Nothing offering for spot delivery, but T's are offered to arrive at \$22.25, with \$21.50 as the best bid for good-sized lots. It is said that several thousand tons have been sold for delivery in Pitts-burgh, at a price slightly less than \$23.

Nails-Continue in active demand, and although small lots are mostly called for, the aggregate of business is good. There is no oversupply, and small sizes are said to be specially scarce. Prices are unchanged and may be quoted in an ordinary way at \$3.15

PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, } PITTEBURGH, PA., June 12, 1283.

There has been nothing new developed during the rast week. With the labor question disposed of for another year, and the weather all that could be desired for the growing crops, a more hopeful feeling prevails. Manufacturers generally are in better spirits. The apprehension excited by the complications of James Marshall & Co. and the Grafton Iron Co. have about subsided; and there are hopes of a fair summer and good fall trade, though low prices and small margins for profit are anticipated. The cost of production has been materially reduced, With the exception of skilled labor, values are down almost, if not altogether, as low as they were just after the last panic. Ores, Fig Iron, Coal, Coke, &c., are down to, if not below, cost of production, and as regards transportation (a very important matter to Pittsburgh manufacturers), it was never bet confidence has been pretty well restored, and there are hopes of a fair summer and good fall trade, though low prices and small Pittsburgh manufacturers), it was never bet ter than at present. Freights, both by river and rail, are extremely low to all points West and South, and are likely to continue so; Iron, Nails, &c., are being shipped to Cincinnati and Louisville by river at 8¢ @ 10¢ \$\partial 100 \text{lb.}, and to St. Louis at 12¢ \$\partial 215¢. Competition is sharp, and in some instances freights have been shipped by boat to Cincinnati as low as 5¢ \$\partial 100 \text{lb.}—hardly enough to pay for labor in handling.

Ores.-The Ore market continues very much depressed, with but little prospect of any immediate improvement. It is stated that there are some 300,000 tons of Lake Ore on the dock at Cleveland and at the mines for sale, and no demand. A few large contracts have been made, chiefly for Bessemer Ores, but consumers, as a rule, are buying only as their immediate necessities require, and they will endeavor, if possible, to push prices down still lower. Foreign Ores, excepting for special purposes, are shut out of this market.

Pig Iron.—There has been some business ne during the past week, but the demand continues light; consumers, almost without

Tank Iron have been placed, and a very re- did not turn out as represented. Makers of good Iron, so far as we can learn, are re-fusing to make any further concessions—say they cannot do so without losing money. Furnaces tributary to the market, both East and West, are able to get as much at home for their Iron as can be obtained in this market, and our local furnaces for the present have a monopoly of the business, although at the prices there is no bonanza in it. Prices may be fairly quoted as follows:

Blast..... 28 00 @ 33.00, 4

We can report a sale of 500 tons Gray Forge Neutral (Lake Ore), \$18, 4 mos., and 150 tons Bessemer at \$21.50. It is intimated that a round lot of Bessemer can be had below our inside quotation.

Muck Bar.—There have been some few sales, and the market is quoted steady at \$34, cash, for good Neutral.

Manufactured Iron -Trade is not as active as it was at the close of last month, when a good many jobbers and consumers, in antici-pation of a strike, were anxious to get in their orders. Some of these orders have been countermanded since the settlement, However, business is all that can be expected; some of the mills have about all they can do, and, upon the whole, a better feeling prevails among mill owners than a week ago. Prices easier, but we make no change in our quotation—2¢ for Bars, 60 days, with usual discount of 2 % for cash, although a desirable order might be placed at a tenth less.

Nails.-There is a continued good trade; business is all that can reasonably be ex-pected; manufacturers have all they can do, and this will, no doubt, continue during the remainder of the month. Prices are easier. We now quote at \$3, 60 days, 2 % off for cash, with the usual abatement of 10¢ % keg on carload lots and upward. The outlook is favorable for a good Nail trade all summer, as there is no stock in first hands, and the onsumption promises to continue large.

Wrought Iron Pipe,-The demand has fallen off somewhat, owing to the expected lockout having been averted, and prices have eased up, although they remain unchanged. Discounts in Gas and Steam Pipe, 70 and 5 % @ 70 and 10 %; in Boiler Tubes, 55 @ 55 and 5 %. Oil-Well Supplies are irregular in price and demand light; Casing is quoted at 45¢ @ 50¢ P foot, and Tubing at 15¢ @ 16¢. 15¢ @ 16¢.

Old Rails.—The general position of the market remains unchanged; the last sale market remains unchanged; the last sale reported was at \$22.50. There are buyers at \$22, but no sellers at that price. We are cognizant of a let having been offered at \$22.25, delivered at Pittsburgh on barge, but consumers would all rather pay 50¢ \$\frac{2}{3}\$ ton more to have them delivered by rail, from the fact that it costs that much more to get the fact that it costs that much more to get them to their mills. In the one case they have to be hauled by horse-power, requiring a good deal of extra labor, while by rail they can be dumped off where they are wanted. This being the case, there is a difference of 50% @ 75% ? ton made between rail and river delivery in favor of the

Steel Rails.—We now quote at \$38 @ \$39 for near-by delivery, cash at mill. It is said that makers can do better now at \$38 than a month or more ago at \$40, owing to the reduced cost of production. Nearly all the mills are sold several months ahead, and the indications now are that they will have all they can do until the advent of cold

Steel .- The Merchant Steel trade con nues light, and in the cheaper grades there

is a good deal of cutting of prices. Railway Track Supplies.— Railway Spikes remain unchanged at 2.60¢, 30 days; Splice Bars, 2¢; Track Bolts, 3.25¢ with Square and 3.35¢ @ 3.40¢ with Hexagon Nuts. The Spike mill of Dilworth, Porter & Co., after a stoppage of some three weeks. Co., after a stoppage of some three weeks, has been started up again.

Scrap. — There is so little doing in Scrap that it is impossible to give reliable

important industry; on the contrary, the demand continues light. Prices have further declined and are now down to, if not below, cost of production. Sales have been made during the past week at $87\frac{1}{2}$ % @ 90% If ton, free on cars at ovens.

Window Glass.-There is an increasing demand, but business is far from being satisfactory to manufacturers.

CHICAGO.

Office of The Iron Age, 36 and 38 Clark St., cor. Lake, CHICAGO, June 11, 1883.

Hardware.-The market for Shelf and Heavy Hardware during the week past has been fair, while values continue unchanged.

Nails.-The demand for Nails continues good, with no change in the quotation, which we give as \$3.25 \$\ keg for iod. to fod. for small lots, with the usual 2 % off for cash and an additional io¢ for carload lots.

Manufactured Iron. - We have nothing of special importance to note in this market; the demand is fair and quotations remain continues light; consumers, almost without an exception, are refusing to anticipate future wants, and prices are weak, but unchanged. We quote Bar, 2.20¢@ 2.30¢ trates and prices are weak, but unchanged. Some of the Marshall Iron is being pressed upon the market, the effect of which is anything but favorable. Parties not wanting the Iron are using it as a lever to force other Irons down. Consumers are timid about buying Iron, as a good deal of it is said to be "afloats." We know of a buyer who offered the representative of a certain furnace 50¢ \$\mathbb{P}\$ ton more for their Iron than the same brand was offered at by a Marshall creditor, preferring to pay the difference so as to have some guaranty in case the Iron of the same brand Washers, \$\mathscr{P}{\phi}\$ erates; Norway Rerol.ed Bars, 5\(\frac{1}{2}\mathscr{P}{\phi}\$ rates; Nuts and Washers, \$\mathscr{P}{\phi}\$ of flist; Wrought Boat Spikes, 3\(\frac{1}{2}\mathscr{P}{\phi}\$ rates.

exception of Silvery Soft, which is now quoted at \$21 @ \$22, a reduction of \$2 ? n. Lake Superior, Nos. 1 and 2, \$23; No. \$24, and Nos. 4, 5 and 6, \$25, 4 mos.; Briar Hill, \$25; Himrod, \$23; Crane No. 1 \$25; No. 2, \$24; Thomas, \$24 @ \$26; American Scotch, \$24 @ \$25; Du Val, No. 1, \$23.50; No. 2, \$22.50; Fulton Notch, No. 2, \$22.50; No. 3, \$21.50; Calumet, \$23 @ \$23.50; A mos.; Imported Scotch, \$27 @ \$28; Southern Coke, No. 1, \$23.85; No. 2, \$22.35; Low Moor, No. 1, \$24; No. 2, \$22.75, 4 mos.

Steel .- As at our previous writing, trade in Tool, Machinery and Agricultural Steel is quiet, and prices have undergone no change. We quote as follows: Tool, 11½¢; Machinery O. H., 5¢; Crucible Machinery, 7¢; chinery O. H., 5¢; Crucible Machinery, 7¢; Hammer, 2 inches and under, 8¢; over 2 inches, 9¢; Cast Spring, 6¢, and O. H. Spring, Tire and Sleigh Shoe, 5¢; Sheet, first, second and third quality, 12¢, 10½¢ and 8½¢ respectively; Crucible Plow, 6¢; Eagle Plow, 5¢; Iron Center Plow, 9¾¢, and Soft Steel Center Plow, 9¾¢; Cast Plow, 5¢; German Plow, 4½¢ 5¢; German Plow, 41/2¢.

Scrap Iron. - We note a reduction in No. Wrought Scrap and Old Plow Steel of \$1 ton; otherwise we have no change to re ort, and quote as follows, which are dealport, and quote as follows, which are dealers' purchasing prices: No. I Railroad Wrought Scrap, P net ton, \$21; No. I Country Wrought Scrap, P ton, \$15; No. I Stove Plate Scrap, P ton, \$10; Machine Shop Wrought Turnings, P ton, \$9; Cast Iron Borings, \$7; Old Plows and Plow Steel, \$11; Malleable Scrap, \$5.

EVERETT & Post, 156 Lake street, Chicago under date of June 9, 1883, report the Coke market as follows: Coke.—There is a fair movement to report in Connellsville Foundry Coke. Prices have not changed materially since our last. The largest producers are not willing to contract ahead very far at current rates.

CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., | CEATTANOOGA, June 11, 1883.

The past week has been decidedly summe like. The heat has not conduced to outdoor activity, though business has generally been pretty fair. Merchants report the spring activity, thought a ferchants report the spring retrade now about closed as being a full average in profits and volume. Collections are not difficult. In manufacturing trades, expectations are not difficult. cept Iron, there is rather unusual activity The week closes hot and showery.

Pig Iron.-The situation is unchanged The last transaction we learn of that amounted to much was a large lot, about 1000 tons of Mill, at \$15.75, net, at furnace. One of the large stacks at South Pittsburgh is out of blast, leaving blowing but one of the three owned by the Tennessee Coal and Railroad Co. Several of the small Charcoal furnace are out and all will be before fell furnaces are out, and all will be before fall. unless the market improves. Advices from Northern market centers are calculated to No. 1 Foundry, \$19 @ \$20; No. 2 Foundry, \$18 @ \$19; Gray Forge, \$17 @ \$18; White and Mottled, \$15 @ \$16; Car-wheel Metal, \$24 @ \$26.

Ores.—We quote: 50 % Brown Hematite, ton, \$2 @ \$2.75; Red Fossil, \$2 @ \$2.25 elivered at furnace

Miscellaucous Articles.—We quote; Wrought Scrap, \$18 @ \$22; Cast \$ \$11 @ \$14; Old Wheels, nominal, \$22.

Nails-Are in good request at \$3 for large oills; 10¢ higher for small lots.

Manufactured Iron.—Bar continues ow at \$2 for round lots; Railroad Spikes, \$2.90; Track Bolts, \$3; Fish Plate, \$2. Coal.—We quote: Fancy Lump, \$3 ommon, \$2.50; run of mine to manufactur

ers, \$1.75 at mills. Coke.—We quote: Furnace Coke, \$3 at oint of consumption; Foundry, 10¢ @ 12¢ bushel.

LOUISVILLE.

No. 1 Hanging Rock Charcoai. 21.50 @ 22.00
No. 1 Southern Charcoai. 21.50 @ 22.00
No. 1 Hanging Rock Stonecoal and Coke. 20.50 @ 21.00
No. 1 Southern Stonecoal and Coke. 20.50 @ 21.00
No. 2 " 19.00 @ 20.00
"American Scotch" 19.00 @ 20.00
Onen Silver gray 18.00 @ 19.00 MILL IRONS. No. : Charcoal ...

..... 15.50 @ 16.00 CAR WHEEL IRONS.

W. B. BELKNAP & Co., Iron and Steel Merchants, Nos. 115 to 121 West Main street, report to us as follows, under date of June 9,

only. If maintacturers expect to maintain present prices they must go back to their plan of closing down for a few weeks at short intervals. Fence Wire.—Weak and declining. The St. Louis decision knocked the value out of the word "licensed," and

Prices are far too low to enable realization of profit; in fact, there is a loss to the Pig Iron maker and to the greater number of the rolling mills. Some of the prominent furnacemen in the Hanging Rock region are refusing to accept the present prices, and others are reducing their outputs, but as and others are reducing their outputs, out as yet not to sufficient extent to affect quotations. The largely increased facilities for the production in Virginia, Tennessee and Alabama, new furnaces now blowing in, and the products pressing the market, demoralizes prices for the present and threatens the future. The rolling mills in this region have partially resumed work; all will be in by the 20th. None have yet entered the market to buy any considerable quantity of Pig Iron. Quotations: No. 1 Best Hanging Rock Charcoal Foundry, \$25.50; Good No. 1, \$25; Southern, Tennessee and Alabama, \$22 @ \$22.50; No. 2, 50¢ or \$1 less; Hanging Rock Coke, \$21 @ \$22.50; No. 2, \$1 less; Hanging Rock Coke, \$21 @ \$22.50; No. 2, \$1 less; American Scotch, \$21.50 @ \$22; No. 2, \$20 @ \$20.50; Silver Gray Softeners, Best Jackson County Stonecoal, \$20 @ \$21; others, \$10 @ \$20; No. 2, partially resumed work; all will be in by the coal, \$20 @ \$21; others, \$19 @ \$20; No. 2, \$19 @ \$20; Fair, \$19; No. 3, \$18. Forge, no sales; held at from \$17 to \$23 for the no sales; neid at from \$17 to \$23 for the range of Stonecoal, Coke and Charcoal; Car Wheel, Warm Blast Charcoal, \$25 @ \$26; Cold Blast, \$26 @ \$28. Scrap.—Old Wheels, \$22.50; Rails, 1¢ \$1 lb; No. 1 Wrought, \$1.10; Country, 90¢; Light, 75¢; Cast, 50¢ @ 75¢; market overstocked with all grades.

RICHMOND.

ASA SNYDER, Iron Merchant and Furnace Agent, writes as follows, under date of June 11, 1883: Our Iron market is unsettled. Buyers are shy, and continue purchases of the smallest possible quantity to keep from stoppage. We continue last week's quotations, but they only nominally represent the mar-ket. Concessions would be made on orders of reasonable size.

No. 1 Scotch Pig Iron		.\$23.50 @	26.50
No. 1 anthracite Pig Ir	DB	, 21.00 @	24.00
No. 2		. 20.00 @	23.00
No. z Virginia Coke Pig	Iron		
No. s	88 88 88 8		
NO. 3			20,00
White and Mottled		. 17.00 @	19.00
Virginia C. B. Ch recal			
Old Dom. Nails (carlo	1 lots)		
Old Iron Rails		. 21.00 (3	22.00
Old Car Wheels			20,00
Wrought Scrap, No. 1			
Cast Ecrap, No. 1			19.00
Richmond Refined Bar	Iron	· 3 2-10\$	base
Horse Shoes (Tredegar)		. 4.35 @	
Mule "		. 5-25 @	*****

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us the following, under date of June 11, 1883: We have to report a decided improvement, both in inquiry and demand, for the past week, with values firm and unchanged at

Ref. Bar Iron, 1 to 6 x 36 to 1 10 1	20	236		
" i to 45 x 15 to 1 # 1	D	21/4	60	2.35
" 16 to g, Round		/	-	
and Square		= 54		
Hoop Irun, 15 wide and upward "		3-10	0	3 3 10
Band Iron, from 11/4 to 6 in. wide "		7-10	65	2 8-10
Horse-shoe Iron		356		
Norway Nail Rods "		536	6	5%1
Black Diamond Cast Steel "		11	6	12 (
Machinery Steel"		436	63	5 (
Spring Steel"		4	66	4561
Common Horse Nails "		10		22 4
Railroad Spikes, 51/4 x 9-16 "	9	6-10	3	2 7-104
Perkins' Horse Shoes, W keg of 100	o M		!	34-37%
Mule Shoes.,		. /	0 0	5 37%

Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades. (From Our Regular Correspondent.)

LONDON, ENG., May 28, 1883.

THE WEEK report to us as follows, under date of June 9, 1883: A general dullness has been the marked characteristic of the week. Liberal ordering in the last of May resulted in the accumulation of stocks that will doubtless run the jobbers the better part of 30 days, and a natural desire to sell manifests itself. The delivery. When June came in there was a rush to execute belated orders, and to get new cnes at as low prices almost as had ruled in most parts of the country, and it was at any time since January. This is rather violent reaction, and may go to crowd out some of the mills now in operation, but it is evident that something must be contrived to affect the market in a measure, as the lock-out was expected to do. In other words, the strong likelihood of a lockout went to

Pig Iron.—We have no new features to show that it was regarded by the majority of manufacturers as a necessity in the presof manufacturers as a necessity in the pres-during the past week. Trade has been fair and quotations remain unchanged, with the exception of Silvery Soft, which is now possibly appear strange of manufacturers as a necessity in the pres-ent condition of the market. This proposed measure of relief failed. Now, what other one can we see substituted that will go to include the pres-one can we see substituted that will go to include the pres-fine atmospheric influences will be milbring about a practically similar result? Unless there is a decided reduction in output we must look for lower prices. Bar Iron.—Supply ample and demand light. Mills de lare they cannot go below prices ruling, say, May I, but if a decline in Fig and Scrap will help any, there is a better margin now than then. Steet.—Prices have receded to ebb mark on the light gauges. Heavier numbers not as Steel.—Prices have receded to ebb mark on the light gauges. Heavier numbers not as low proportionately, but there is small demand. Hoop and Band.—Very dull; nothing doing. Nails.—Jobbing in small lots only. If manufacturers expect to maintain prospects are decidedly brighter, and business men generally are rather dispressed to in fine style. The grass is said to have grown nearly 2 inches within the past 36 hours, ness men generally are rather disposed to take a more cheerful departure under the riotous rays of Old Sol. It is, of course, a riotous rays of Old Sol. It is, of course, a far cry from this to the harvesting period, and much may happen in the meantime wet, taking things as they turn up, this is a good beginning, and we are content to let the future take care of itself so long as the present is prilliantly support. about half a cent off the system of detecting errors in billing. Jobbers throughout the West were constantly an unbed, too, by inquisitive letters about the wire handled, demanding to know from whom bought and at what prices sold, &c.

This may not be a second Daniel come to judgment, but he is certainly a near relation of that astute diviner number two.

The image that for the strate industry the iron was affected the iron whom bought and at what prices sold, &c.

This may not be a second Daniel come to judgment, but he is certainly a near relation of that astute diviner number two.

The image that for the iron was affected the iron was affected the iron whom bought and at what prices sold, &c.

I have been complaining of espionage in the system of detecting errors in billing. Jobbers that for the system of detecting errors in billing. Jobbers that affected the iron was affected the iron

in some of its branches, and allege that for certain kinds of manufactured iron there are more numerous inquiries about than for some months past. They also demonstrate that for several years the end of May has always brought an amendment in the condi-tion of the iron trade. These views may be accurate, but I find it difficult to detect the symptoms of improvement which some persons seem to perceive so readily. I do not deny the existence of a better tone in some quarters, but I am afraid the "wish is father to the thought." Sanguine minds may feel better about business, but their feelings do not yield orders, and trade will not undergo any amelioration unless buying is resumed on a better scale than at present. Our ne from your market is also depressing. hear of various failures, impending strikes, the shutting down of mills, blowing out of furnaces, and of great dullness all over the iron districts of the East. With these un-pleasant tidings there is little encouragement for such of our people as had hoped to do an enlarged turnover on American account after the incoming of the new tariff on July 1st. The United States market for our iron and steel has doubtlers ceased to be of vital importance, but you are yet good customers under normal conyet good customers under normal conditions, and your want of prosperity cannot fall to hit us "where we feel the blow." Good judges even yet hold that the American demand controls our iron trade, so that, if they are correct in that view, we likely to remain in sore straits yet nile. From other markets, too, our advices are not strong. There is a good general business in hand on export account, but not a single market is really buoyant, and in none is there expected to be a spurt this year. All things considered, therefore, one is forced to the conclusion that we must look for quietude as regards the demand, and for quietude as regards the demand, and very possibly lower prices for sundry leading lines of crude irons. It is in respect of pig iron, indeed, that the iron world just now is most troubled. With you, as with us, there is little or no doubt that the blast furnaces are making a great deal more iron than can be profitably consumed. Roughly speaking, nearly one-half of the total number of furnaces built are idle, while those at work are piling up more iron than can be sold. Concurrently there is scarcely any accumulation of manufactured iron or steel; hence the good-natured owners of the blast furnaces may be said to be proof the blast furnaces may be said to be providing the whole trade with surplusage in order to depreciate the values of their own products for years to come. If they can enter into the fun of the situation, nobody need complain, of course. To some of the smelters on both sides of the Atlantic I dare say the humor of the thing drags a little They fail to appreciate the irony of the statistical position, and it will be surprising if they do not "get left" very soon. When one considers the enormous stocks on han d in all directions, it is indeed astonishing how the ironmasters have the faith and nerve to go on producing, and it is only explicable on the ground that it spells ruin to stop furnaces, so that they might as well go on until compulsion takes the place of volun-At Glasgow warrants have been very

at Giasgow warrants have been very quiet and have relapsed in value, some of the brands of Scotch pig having also given way. Another furnace has been blown in at Monkland, as a means of increasing the already large make. At Middlesboro' all prices are weaker, sales of No. 3 being noted at 39/6, and even at 39/, although it is understood that the latter price was for a smal lot from second hands. On the West Cone the story is the same—a depressed market, a limited amount of new business, and nominal values. Everywhere pig iron is low and neglected. The furnaces are making more neglected. The furnaces are making more iron than is being sold, and the larger stocks grow, so much the weaker are quotations. From Birmingham a circular, by an anonymous author, has been issued, calling attention to this fact and strongly advising a general restriction of the statement. news strring being down almost to vanishtion of stocks that will doubtless run the
jobbers the better part of 30 days, and a
satural desire to sell manifests itself. The
manufacturers, in their abundant caution, as
a rule refused to book June orders. This
made buyers all the more urgent for May
delivery. When June came in there was a
rush to execute belated orders, and to get
new case at as low prices almost as had ruled

new case of the country, and it was
to to this fact and strongly advising a
general restriction of the output, but the
appeal is certain to fall flat, simply because
nobody is willing to immolate himself for the
benefit of his neighbor. In heavy manufactured iron there is nothing specially new to
report. Most of the larger works are well
engaged on ship-plates, boiler plates, &c.,
the period beyond midsumeers hill, was
the period beyond midsumeers hill, was
the period beyond midsumeers hill on the output, but the
ever, we have one other truly great British
nobody is willing to immolate himself for the
benefit of his neighbor. In heavy manufactured iron there is nothing specially new to
report. Most of the larger well
engaged on ship-plates, boiler plates, &c.,
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the period because mids appeal

been made (as well as of bloom ends) to American buyers. Blooms are neglected, as are steel rails, which are purely nominal in price. A lot of 10,000 tons has been booked at £4. 12/6 7 ton for 56-lb sections, f.o.b. Newport (Monmouthshire).

SCOTCH PIG IRON

is dull and weak all round. The ring are having a poor time of it in warrants, the margins amounting to next to nothing, except with larger lots than cautious men like to dabble in just now. At the Glengarnock Works of Merry & Cunninghame steel-making plant is about to be laid down, and a similar course is said to be probable at the concern now carried on as the Coats Malleable Iron Works. These ventures are rather significant indications of what is going on all over the world in metallurgical practice, and are not cheering to those whose faith has hitherto been pinned to the older metal. There are now 117 furnaces at work in Scotland, against 109 a year ago, including 9 on hem-atites. In Connal's stores there are 578,915 tons, against 637,085 tons this date 1882. The decrease last week was 456 tons. Shipments to date have been 233,419 tons, a decrease to date this year of 6931 tons, while importations of Middlesboro' pig iron into Scotland have been 96,182 tons, an increase of 1390 tons to date in 1883. Warrants stand at 46/8, against 47/3 a year ago. Writing from Glasgow on May 25, James Watson & Co. said: "The Scotch iron marwatson & Co. said: "The Scotch from market is still very dull, prices having relapsed somewhat this week. The demand continues exceedingly quiet, both from abroad and consumers at home. The Middlesboro' market has dropped 6d. & ton this week. The warrant market here opened on Monday last at 47.4 afterward becoming flat and declinwarrant market here opened on Monday last at 47/3, afterward becoming flat and declining to 46/11, cash. On Tuesday forencon the price further receded to 46/9½, rallying later to 46/10½, and on Wednesday a small business was transacted between 46/10½ and 46/9½? It ton. Yesterday the market was closed. To-day the market has again been weak, and the price receded from 46/9½ to 46/8, closing with sellers at the latter figure. The shipments last week were 13,141 tons, as compared with 12,122 tons for the corresponding week of last year." We quote: quote: No. 1.

Or. Mr. D., att Other	EOW	40/3 40	/3
Clyde, "	*********	50/9 48	10
Coltness.		69/6 84	16
Langlean, "	10 010000000	63/ 54	16
Garabe rie, "		48/6 54	1
Summerlee, "		60/ 81/	1
Calder, "		6a/6 88	1-
Carnbroe, "		55/ 49/	,
Glengarnock, at		54/6 AN	,
Eglinton,		48/6 46	1
Dalmellington.		49/6 48/	16
Shots, at Leith	*****	6a/ 56/	
Kinnell, at Bo'ne	leng .	18/	
Carron, at Gran			15
Carron, at Grant	gemouts	20/ 40/	0

AT MIDDLESBORO'

AT MIDDLESBORO'
the open market rules quiet, with a weakness in values which has been intensified by
the strike of 4000 men at Bolckow, Vaughan
& Co.'s Eston Steel Works, in opposition to
reductions in wages ranging from 5 to 10 %.
Both parties appear firm in their views, the
management being specially clear in intimating that work will not be resumed save at
the lower rates of resumensation. Middlesboro' pig iron ranges from 39/6 to 40/, with an odd sale by merchants at 39/, and for G. M. B., f.o.b. at makers' wharves in the Tees, for net cash, less 21/2 %, prices are :

Shipments are on a considerable scale and the local consumption is good, all the ship ailding, marine, engineering, &c., estab lishments being very fully employed.

HEMATITE PIG IRONS

are weak, at 50/@ 51/6 for mixed lots in usual proportions. On the West Coast stocks are growing every week, but the smelters have not yet mustered up courage to enforce the restriction arrangement they discussed and approved of several weeks ago. West Coast brands are as under, with possibilities further in favored from the control of the cont sibilities further in favor of round lots : No. 2. No. 3.

Cleator \$6/	55/6	88/
Lonsdale 52/6	53/6	58/
Workington 52/	51/6	51/
Lowther 52/	53/6	53/
Distington 52/	51/6	51/
Harrington 52/	51/6	52/
Solway 52/	51/6	51/
Maryport 52/	51/6	81/
Shipments last week included 1.	1,200 to	ons of

pig iron and 5770 tons of steel rails, &c. North England hematites, f.o.b. Cumberland

ports, &c., are:	
No. or quality. Ordinary.	Bessemer
No. 1 53/ @ 54/	53/6
No. 8 52/6 @ 53/6	59/6
No. 3 52/ 6 53/	51/6
No. 4, Foundry 52/6 6 53/	
No. 4, Forge 52/6 @ 53/	
Mottled	

ENGLISH CAPITAL IN RUSSIA.

It is rumored that some changes of high importance are on the point of being made by the Russian Government in its arrange being made ments with the large iron and steel works of that country. Hitherto extravagant pre-miums have been paid to the works for rails, locomotives, &c., and production has gone on quite irrespective of the requirements of the then time being. It has been a rule to pay the premium for the rails, &c., and to advance money besides to the extent of twothirds of the value of the product. consequence is that the Government of the Czar find themselves completely choked up with material, which is mostly at or in the neighborhood of St. Petersburg, while, if wanted at all, it may be needed in Siberia or the Caucasus. A compromise is now to b expected, the Government setting the works on their feet financially and taking possession of all the accumulated products, including about 300,000 tons of steel rails, 600 locomo tives, and many thousand railway wagons, &c. What will be done with this large stock is a problem the solution of which will probably be interesting and instructive.

which was formally opened by the King and Queen of the Netherlands on May 1, is still in a state of "hash," although a large number of workmen are engaged in pushing forward the completion of the interior of the building. All axhibitions are more or less THE AMSTERDAM EXHIBITION in a state of "hash," although a large number of workmen are engaged in pushing forward the completion of the interior of the building. All exhibitions are more or less behind time, but this one of the Hollanders is the worst case of the kind on record. On

ton, f.o.b. London or outports. Crop ends the opening day the King is reported to have are 60/ (a 62/6, and sales are said to have said that he had "come to open the exhibition, and not to open packing cases." Since then many packages have been cleared and the machinery section is being got into work-ing trim, but there is yet much to be done before the place can be pronounced complete. The United States section is fairly forward, and will obtain a good record when the awards are made. At present the American bar is held in high esteem by the Dutch-men and vicitors for its supply of drinks which are held to be ahead even of Schnapps

appear to be very gradually "priming up" to a rather sounder level of values, partly as a consequence of the reduced rate of produc a consequence of the reduced rate of produc-tion, partly owing to larger buying on ac-count of your market, and partly by reason of the higher tendencies of tin, palm oil, &c. I call B. V. cokes 16/, and wasters 14/6 @ 14/9, with other sorts as per cablegram. am advised by Mr. Burrell Prior, merchant London, as under: "A more animated feel-ing seems to pervade this market, and some-what more inclination to operate is apparent. Makers are endeavoring to force an advance, and in no case will they submit to any reduction on old rates. The cause of this firmness is found in the reported anxiety of Americans to place orders for delivery under the new United States teriff. Trade in the States generally quiet, but steady, and it remains to be seen whether the market will sustain any advance, or whether the movement is merely a temporary one caused by the advent on 1st July of the new tariff."

FOREIGN.

(Moniteur des Interets Materiels)

PRANCE.

(Moniteur des Interets Materiels)

Paris, May 27, 1833.—Metals.—There has been a decided improvement both in general business and in the Metal trade. Metals have been more active and they are all higher. We quote at the close: Copper—Chill Bars, 173,75 @ 167,50; Ingots and Slabs, 170; Best Selected, 175, and pure Corocoro Ore, 167,50. Tim—Barca, 265; Billiton, 260; Straits and Australian, 254,75, and Sapidish, 257,50. Lead, 32 @ 33,75, and Spidier, 40 @ 40,50. Iron.—The Government seems at length to have arrived at an understanding with the railroad companies. The Iron and Steel trades are likely soon to feel the effect of this consummation; numerous and important orders will be received and these will impart firmness. In other respects little change is noticeable, whether in the general situation or prices. In the Haute-Marne there seems to be a firmer tendency, whereas in the Meurthe and Moselle there is still a great deal of weakness, although the stock of Fig Iron has diminished somewhat in the latter; there is meanwhile no revival in the demand in this city, orders received being trifling in volume. Thus there is no difficulty in procuring on the spot Merchant Iron and Flooring ditto at 18 francs, while Corners are obtainable at 23 francs, all \$100 the Contracts and of Steel and its manufactures, 20,326, against 43,724, and of Steel and its manufactures, 20,330, against 1,519. On the other hand, we exported thereof this year 32,185 tons, against 49,256 in 1882, and 31,517. On the other hand, we exported thereof this year 32,185 tons, against 34 249, and 21,282. Cool.—Our Northern Coal regions have a good sale of Coal for manufacturing purposes, and as for Domestic a good many contracts have been renewed at prices one franc above those ruing a year since. Since many years we have not had such a lively May in this fuel.

BELGIUM.

(Moniteur Industriel.)

Brussels, May 28, 183,—Iron.—A torpor which nothing has been able to overcome still weighs on our Iron market. Dealings are rare and the little done cannot be concluded without difficulty; if a buyer presents himself he wants fresh concessions, and even if these be granted him he shows little anxiety to clinch the bargain. But we know from experience that this is always the case whenever the market appears to tend downward. The buyer hesitates and the producer is in an unpleasant dilemma. We cannot, however, announce any further downright decline. The car adjudication to supply the Government railway lines, if anything, ought to lend some support to the market; at any rate, in some shape or another, it is sustained. While English Pig seems destined soon to reach the low figure of 58 francs, Domestic is upheld at 7.25 for Charlerol Fig, and 6.25 Athus-Halancy. I udding Pig remain strong at 5 @ 6 francs; Luxembourg has some what abated its pretensions; it can be had for 5.30 francs. Merchant Iron may be quoted 12.75 @ 13 francs No. 1; No. 2 is weak at 13.75; No. 3 at 14.50; Beams at 13.50, and Corners at 14. Sheets are neglected; we quote No. 2, 17.50; No. 3, 19.50; Commercial, 22.50; I hin, 24.50, and No. 4, 27.50. On 'Chaspre on Wednesday last some large dealings took place in Beams and Sheets of heavy descriptions; Pig Iron was easier; Common Merchant was excessively quiet. Coal is not very active. There is some demand for Coal for brickmaking, while Coal for Coke is quite weak. Coke has given way to 17 francs. The ten principal Coal bassins in this country have turned out in 1883 some a,84,484 tons of Coal, against 2,360,53 in 1881. At Mons there has been a slight decline in Coal, and at Liege Coal for Domestic purposes has given way to 150, while Coal for industrial wants may be had there at 8.75 francs. (Moniteur Industriel.)

GERMANY.

(Borsenhalle.)

GERMANY.

(Borsenhalle.)

Hamburo, May \$2, \$283.—The market for Pig Iron has become quite heavy; there is some disappointment generally in the Iron market, business not having realized the expectations entertained a couple of weeks ago. Instead of the buoyancy then observable, there is mow a feeling of doubt which does not augur well. In spite of the concerted action of biast-furnace owners and the reduction of output, prices are barely sustained. Upper Silesia ateadily undersells Westphalia in Fig Iron for pudding purposes. This relates quite as much to foundry Fig. German Steel works meanwhile continue quite busy. Krupp and the Hoerde people lave made some large contracts in Steel Haifs at current rates. As for a recovery of prices in the iron line there is little prospect of it at present, in the face of the general dullness we have relapsed into, as compared with the almost feverish activity that marked the first four months of the year. We do not fail to mention that for some time past, as will have been noticed from the Dusseldorf quotations we gave, some brands of Spanish Pig Iron are dealt in in that locality. The leading brands are Spanish 'Bi Mudela.' which is sold deliverable at Rubrort, and Spanish Beasemer, deliverable at Rubrort, and Spanish Region for Common Russell (Spelter remains have the second to watch this business. Metals.—Lead has been dull English at 15,60 marks; ditto Sheet, 15,80; German Pig, 13,50 gers, and English Refined, 71 gers, 20 copper is firm and held at an advance; we quete Drontheim, 72 gers, Lake, 80; Electrolytic N. A., 77 gers, and English Refined, 77 gers, and Engl

HOLLAND.

(Koch & Vlierboom.)

AUSTRIA. (Austrian Trade Journal.)

(Austrian Trade Journal.)

VIENIA, May 29, 1833.—Iron.—Our market gets more and more under the influence of the general duliness which usually prevails in the Iron trade of Austro-Hungary during the summer months. Merchant Iron in particular commences to feel this very much. After the syndicate had been dissolved in Bohemia the price of Merchant Iron declined there from 130 fiorins \$\overline{9}\$ ton to 120; in other portions of the monarchy the latter price has been current for some time past. Most rolling mills are still tolerably busy; nothing forces them to make concessions, but as by all means they want to prevent the accumulation of stock if they can, they try to run foff some Iron by shading before the summer months bring trade in Iron to a comparative standatill. As for Pig, we quote as before: Styrian Charcoal Pudding, 33 forhas, and Hungarian, 47. This is understood to be the price of Pig Iron deliverable at the furnaces. Sheet Iron is lower.

SPAIN.

SPAIN.

(Revista Minera.)

Madrid, May 26, 1832.—Metals,—The Mining Exhibition was inaugurated yesterday with great pomp by the Kings of Spain and Portugal. A good show is made by the Franco-Belgian Co.; I. Carra & Orconera, Bilbao: the Belmas Coal Co.; the Royal Artillery: the Humboldt Co.; the Royal Asturian Co.; the Rio Tinto Copper Mining Co.; the Linares Mining Co., and the Almaden Quick-silver Co. Spain exported during the first quarter of the year 4802 tons of Calamine, against 8506 in 1882, and 2021 in 1881; 128.059 tons Copper ore against 147,078 and 107,111; 135 tons Quick-silver against 520 and 63,64, and 29,534 tons ingot Copper, against 6130 and 63,64, and 29,534 tons of Pig Lead, against 28,527 and 25,370.

EAST INDIES.

(Schmidt, Kustermann & Co.)

PENANG, April 25, 1883.—Tin.—For the two weeks the receipts sum up 7200 piculs, the market open-ing at \$30,40, then recovering to \$3,135, but clossing quiet at \$30.25. For Europe 4000 piculs were taken and for China 4000. Total export up to the 11th inst., 30,074 piculs for England and 14,029 for the United States. Exchange, 4 months' bank bills on London,

(Hessenauer & Co.)
COLONDO, May 2, 1832.—Flumbago.—The market has remained moderately active at unaltered rates; We quote & ton, in rupees: Fine Lump, 150 @ 160; Ordinary ditto, 130@ 140; Chips. 65@72, and Dust. 49 @ 52. Shipments to the United States since October 1, 54.898 cwts; to the United Kingdom, 60,258; to Trieste, 205; to Havre, 755; and to India, 2954; together, 149,050, against 125,247 in 1882; 125,247 in 1881; 102,611 in 1880, and 110,095 in 1879. Exchange, 6 months' sight credit drafts, 1/7%d.

(Dummler & Co.)

(Dummler & Co.)

Batavia, April. \$2, 1833 — Tin.—The Billiton Co.'s sale of 20,600 slabs, weighing rs.c32 piculs, held on the 24th inst., averaged 66,66 guilders & picul. Nextrales to come off June 27, August 29, October 30. December 22, February 26, 1884, and April 20, 1884. Swedish Iron.—No transactions, only some inferior imitation has realized 5.75; English flat and round Bars have obtained 6.75; nothing doing in Sheeta. Hoops or Corrugated Iron. Steel sold at \$3.50, and Sheet Zine at \$3. Coal.—Arrivals from England amount to r.0,83 tons, and from Australia to 2600 tons, by the arrival of German Iphigenia with 677 tons; British Clyde with 7,48 tons, and French Automne with 450 tons from Newcastle. N. S. W., to consumers. Petroleum —Java arrivals from New York rince January 1 amount to 182,300 cases, No local business transacted this week. American Frank N. Thayer is off Anjer with 57,600 cases. Erchange, six months' signt, 11.95. 11.95.

(Gilfillan, Wood & Co.)

SINGAPORE, April 16, 1883.—Tin opened at \$30.15 P picul, gradually advancing to \$30.62%, and since receding to \$50.37% P picul, closing without demand at that. Supplies have been on a moderate scale, and purchases during the past fortnight are put at 250 tons. Freights.—The supply of disengaged tomage is moderate. For New York the James L. Pendergast sailed, the Norway is fully engaged and the berth has been taken by the Victor and Dvanesti Dubrovachi. For Boston the Agate has cleared and the berth is, for the present, vacant. Exchange steady at 3/8%.

American Manufacturing Interests.

The following extracts are from a paper contributed to the North American Review for June by Hon. Joseph Nimmo, Jr., Chief of the United States Bureau of Statistics:

The interest awakened in regard to the manufacturing industries of the United States by the recent tariff discussions in Congress suggests the propriety of consider-ing some of the more important circumstances attending the genesis and develop-ment of American manufactures. The establishment of manufactures on the shores of the Western world was cotemporaneous with its earliest settlement. The artisan came with the trader, the agriculturist, the school-master and the preacher. Up to the time of the Revolution a large proportion of the Colonial manufactures was the product of household industries. These industries gave employment to both the male and the female members of families. Alexander Hamilton aid, as late as the year 1792: "It is computed, in a number of districts, that two-thirds, three-fourths and even four-fifths of all the clothing of the inhabitants is made by them-But the increasing population and wealth of the Colonies early gave rise to oco, showing that 86 per cent. of the total manufactories devoted to special industries. Furnaces and forges were con-structed for the manufacture of iron and steel, and manufactories of vehicles, house hold furniture, farm implements, hats and caps, glass, woolen and cotton goods, silk goods, linen goods, leather, gunpowder, paper, books, sugar and other articles were established in several of the Colonies, established in several of the Colonies, but chiefly in New York and New England. From the very beginning the Colonists ex-hibited a marked aptitude for mechanical pursuits. The exigencies of their social, industrial and commercial life excited the quest for discoveries, and stimulated genius to new inventions and adaptations. fact that they were so far removed from the methods which characterized European mechanical industries gave a stamp of originality to American manufactures, which, in later days, has manifested itself in the peculiarities of a thousand mechanic arts. success of the industrial enterprises of the Colonists was based upon faculty and whole-some lives. Through the tuition of self-cul-

ture, from generation to generation, invent-ive genius became an inherited instinct. From an early date the mother country bitterly opposed the establishment of manufactures in the American Colonies, he avowed policy being to confine their external commerce to the exportation of products of agriculture, of the forest, and of the fishes, to England alone and in the British ships, and in return to supply them with the products of her own manufactories. But this policy served only to illustrate the irony But of events. In the end it proved to be pro tective and stimulating, and not repressive of the Colonial industries. The restraints imposed by the British Government in connection with the duties laid upon Colonial

produce when imported into Great Britain, and the great cost of transporting the crude products of the Colonies across the Atlantic Ocean, left little to them for their labor. In order, therefore, to supply their needs they were forced to create a market for their products by becoming their own artificers. Household mechanical industry increased, and hundreds of manufactories were established in the several Colonies. The sales of goods of Colonial manufacture were at first confined to the towns or neighborhoods in which they were produced, but soon were extended to greater distances. An inter-colonial trade thus sprang up, which was the beginning of the enormous internal com-merce of the United States of the present day. After awhile the Colonies were enabled to export their manufactured products to foreign countries, and they did so to a considerable extent, in defiance of the edicts of the mother country.

The laws of Parliament and the orders of the British Board of Trade for the suppression of American manufactures were, from the beginning, almost entirely inoperative, owing to the impracticability of administer-ing them. It was found to be impossible to distinguish between household manufactures and manufactures for sale, or between the products of flouring mills, fulling mills and the like, erected for the purpose of supplying the demands of neighborhoods, and those established with a view to trade between the Colonies and with foreign countries. The impracticability of enforcing the repressive measures in regard to American manufac-turer was clearly recognized by the Colonial governors. About the year 1715 Lord Cornbury, Governor of the Colony of New York, said, in an official report: "I myself have said, in an official report: "I myself have seen serge made upon Long Island that any man may wear. Now, if they begin to make serge, they will, in time, make coarse cloth, and then fine cloth." He adds some dolorous remarks in regard to the insubordinate attitude assumed by the Colonists even at that early date. In 1754 the British Board of Trade rebuked the amiable Governor. Shirley, of Massachusetts, for having incorporated "a society for setting up rival manufactories, as the passing of such laws in the Colonies has always been restrained."

The persistent and open violation of the

edicts of the British Board of Trade, regardedicts of the British Board of Trade, regard-ing manufacturing enterprises, begat a feel-ing of confidence on the part of the Colonists in their ability to resist British oppression. The vigorous growth attained by American manufactures during the Colonial period is evidenced by the fact that the Colonists were able to meet all their home needs, and be-sides to clothe their army and to supply its commissariat during the terrible struggle of the seven years' war. Not the remotest allusion is made in the Declaration of Independence to the repressive measures of Great Britain in regard to Colonial manufactures, and it is believed that such mention would have been more likely to provoke a smile than to excite indignation. Besides, a charge of this nature, even if sustained, was not one upon which the Colonists themselves could have united. The predominant public sentiment in the United States regarding American manufactures, at the time of the organization of the Federal Government, is clearly formulated in the following preamble to the act of August 10, 1790, the second act of the first Congress: "Whereas, it is neces-sary for the support of the Government, for the discharge of the debts of the United States, and the encouragement and protec-tion of manufactures, that duties be laid on goods, wares and merchandise imported," &c. In his message to Congress, dated January 8, 1790, President Washington invited the attention of that body to the importance of promoting manufactures. the 15th of January the House of Repres atives, by resolution, referred this portion of the President's message to Alexander Ham-ilton, Secretary of the Treasury, "to prepare and report a proper plan, or plans, conformably to the recommendation of the President." Hamilton's memorable report in reply to this resolution was submitted to the

next Congress. The importance of manufactures to agriculture is indicated by the following facts in regard to the value of products of agriculture consumed in this country and exported to foreign countries: The total value of the products of agriculture in 1880, as before stated, amounted to about \$3,000,000,000, this being the value on the farm. The farm value of the exports of products of agricul-ture during the year ending June 30, 1880, amounted, however, to only about \$500,000, value products of agriculture cultural product is sustained by manufactur-ing industries may be inferred from the following facts in regard to occupations: According to the census of 1880 there were in the United States 17,392,099 persons having occupations, of whom about 3,600,000, or 21 per cent., were employed in manufacturing and mechanical industries. Presumably, the earn-they ings of these persons supplied the means of support to at least 10,000,000 persons, including all workers and those directly dependent upon them for the means of living. Besides this, the manufacturing industries of this sons employed in trade and transportation. It must be remembered, also, that manufactures give rise not only to a very large and constant demand for products of agriculture as food, but also for such products as ma-terials in the mechanic arts. It is, of course, impossible, even approximately, to estimate the total number of persons actually employed in agriculture, in mining, in trade or in transportation, or rendering personal or professional services, who, together with their families, in a greater or less degree, indirectly owe their means of support to manufactures. The foregoing facts in regard to the number of persons engaged in the various occupations also serve, in a striking manner, to illustrate the importance of manufactures to the interests of labor.

delphia, it was stated that the surplus earnings would be invested in two new steel steamships, now in course of construction, and to ply between that city, New York and Antwerp.

The relations of agriculture to home markets are perhaps more clearly indicated by the following fact: The total value of the products of agriculture exported during the year ending June, 30, 1882, amounted to \$552,219,819, of which \$512,867,989, or 93 per cent, consisted of cotton, breadstuffs, provisions and live animals, leaving only \$39,351,830, or 7 per cent., as the value of all other agricultural products exported. But, from the best information which can be obtained, it appears that about 95 per cent. of the total value of the exports of breadstuffs, live animals and provisions was the product of our great surplus-producing Western States. The area within which cotton is exclusively produced is well known. These facts, therefore, clearly show that the agricultural interests of the New England States, and of the other Atlantic seaboard States north of the cotton belt, depend almost entirely upon home markets—i. e., markets mainly sustained by manufacturing industries. Besides, it is evident from what has just been stated that the farmers of the Western States depend almost entirely upon home markets for the sale of all their products other than grain, provisions and live animals, and that the farmers of the Southern States depend almost entirely upon home markets for the sale of all their productions other than cotton. It is a cheering sign of progress that the people of the Southern States are beginning to appreciate more highly than ever before the importance of developing their own home markets by encouraging manufactures.

So long as the wages paid for labor are from 50 to 150 per cent. greater in the United States than in competing foreign countries, there will be a large class of important industries in this country, one of the conditions to the success of which will be protection, through discriminating duties, against foreign competion in our own markets. The practical question to be considered is the equitable adjustment of duties, so as to place such industries under as favorable circumstances as are enjoyed by other of our industries which need no protection. Protection of the sort referred to is not now, and never has been, confined to manufac-tures. It extends also to agriculture and to mining. The amount of duties collected on imports into the United States during the year ending June 30, 1882, was \$216,133,-916, of which \$71,945,950, or 331/2 per cent., was collected on products of agriculture, and \$1,116,000, or half of 1 per cent. on products of mining. From the best in-formation which can be procured it is esti-mated that manufactured articles, together with materials and the coal required for supplying motive power in manufacturing in-dustries, constitute about one-half of the freight tonnage of the railroads of the United States. It is probable that consider-ably more than one-half of the freight re-ceipts of railroads is derived from the trans-portation of manufactured articles and of portation of manufactured articles and of material and coal required in their produc-tion. This is evident from the fact that the higher and better paying classes of freight consist chiefly of manufactured articles.

Production of Steel Rails in the United States.

The Bulletin of the American Iron and Steel Association has carefully separated the statistics of the steel rail production of the United States from the general figures of rail production. They are given below for the past 10 years, classified in each year according to the material from which they were made.

	N	iet tons of a	oco pounds	
Years.	Iron.	Bee'm'r	Open- hearth steel.	Total.
1873	9130			9430
1874	5739	2000		6739
1875	14,032	2308		16,340
1876,	9593	3163		13,086
1877	5746	1260		7015
1878	7519	417	1300	9229
1879	2833	4933	88o	8646
1880	8839	7355	700	16,894
x88x	32,464	7990	1100	21,554
x88a	11,167	6949	4170	22,280

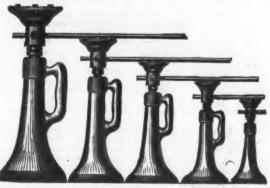
Bids for the new steel cruisers will be opened at the Navy Department July 2. Secretary Chandler has given notice that the maximum amounts which the Navy Department will pay for the construction of these vessels are as follows : For the 4300-ton ship, the Chicago, \$1,248,000; for the sumed in the United States, and that only 14 per cent. was exported to foreign countries. In other words, the quantity consumed at home was six times that sent abroad. The extent to which the home market for agrimaximum sums which the Government will pay for the ships, it is not quite certain that any of the contemplated vessels will be built for some time yet. The published specifica-tions minutely define the character of ship for which the contracts must be taken, and though the sums announced seem liberal, they may not leave a sufficient margin for profit to invite acceptance.

Two more natural gas wells were struck last week in the Allegheny Valleycountry were an essential condition to the employment of a large proportion of the 234,228 persons engaged in mining, the 4,074,238 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services, and the 1,810,256 persons rendering personal and professional services. first named is a couple of miles northeast of the well developed several months ago, and its flow is said to be at least one-third greater. The one at Freeport is 1122 feet deep. The gas was led off some distance by pipes and lighted. The blaze shoots heaven-ward about 20 feet, very regular, and makes a rearing sound, like distant thunder, which can be heard far away. It is a much larger well than the No. 2 belonging to the Enter-prise Gas Co., which is furnishing fuel for

K

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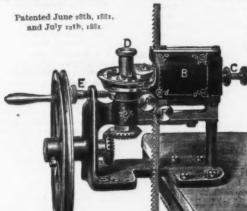
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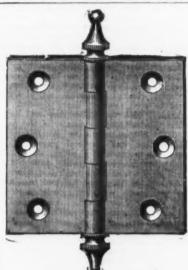
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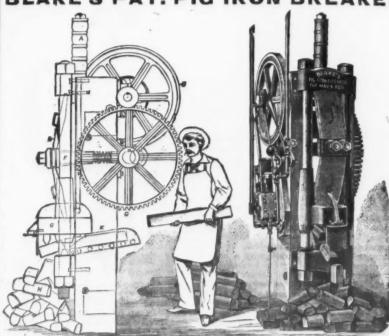
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SALE-FRAUD-CREDIT

S sold to D certain goods on credit on the representation by D that he was solvent. He was at the time insolvent, and before the expiration of the credit made an assignment. At once, on learning of the insolvency of D, S sued for the value of the goods, and, after the assignment, the assignee came in to de-fend against the attachments S had secured. The ground of defense was that there was no cause of action yet accrued, as the credit had not expired. In this suit S was beaten and an appeal was taken—Dietz's assignee tucky, when the judgment was reversed. Judge Pryor, in the opinion, said: "It is well settled that when the vender has been defrauded by his vendee, he may elect to treat the contract as a nullity and bring his action for the recovery of the specified property, or trover for its value, and this doctrine proceeds upon the idea that the con-tract of sa'e laving been rescinded at the election of the vender, he is still vested with the title, and the vender may wave the tort and sue for the value of the goods. The reliance of the assignee, that the action cannot be maintained because the debt is not due under the credit, is avoided by the proof that the credit was got by fraud, which nullifies it, and, therefore, there is no obstacle to an action for goods sold and delivered."

AGENCY TO TAKE ORDERS-RIGHT TO COLLECT.

B bought goods of J through "a commercial traveter," and when the bill for them was received payable to the traveling agent, J demanded payment. On being refused, he brought suit and was beaten. In this suit— Janney vs. Boyd—the defendant was allowed to prove by the agent "that payments are received by commercial travelers," for the purpose of establishing a usage to bind the plaintiff, and the plaintiff appeale 1, on that ground, to the Supreme Court of Minnesota, ground, to the Supreme Court of Minnesota, when the judgment was reversed. Judge Berry, in the opinion, said: "I. A usage to be binding, simply as such, must be established, general and uniform, as applicable to the particular business with reference to which it is sought to be set up. It must be the mode in which persons in that line do their business, so that the law will presume knowledge of it. 2. Independent of controlling usage to the contrary, the sale of goods by an agent, or the fact that he is or acts as agent to take orders for goods, does not of itself authorize him to receive payment therefor"

CHATTEL MORTGAGE-ATTACHMENT.

In Burnham vs. Doolittle, the Supreme Court of Nebraska had under consideration Court of Nebraska had under consideration the question whether the judgment debtor's equity of redemption or interest in goods under a chattel mortgage could be reached by attachment or garnishment. The Chief Justice, Lake, in deciding in the affirmative, said: "We are satisfied that whatever interests a mortgage of chattely may have in terest a mortgageor of chattels may have in them in this State may be reached by seizure under a writ of attachment at any time when in his possession, and by process of garnishment after they have passed into the hands of the mortgagee."

CONTINUING GUARANTY.

In an action upon this guaranty: "OMAHA, Neb., March II, 1878.—DEAR SIR: Please Neb., March II, 1878.—DEAR SIR: Flease let Mr. J. N. have credit for goods to the amount of \$100, and for the payment of which I hold myself responsible,"the vender claimed that it was a continuing guaranty. Under this goods were sold to N. for two years, until he died. N. had made payments, but at his death he owed much more than for. The plaintiff was defeated in. than \$100. The plaintiff was defeated in the action, and carried the case, in error-Tootle vs. Elgatter—to the Supreme Court of Nebraska, where he had a decision in his favor. Judge Maxwell, in the opinion, said: "The words employed in the instrument are the words of the defendant, and must be construed as strongly against him as their sense In our opinion, the guaranty this case was a continuing one, and the limitation therein was as to the extent of the defendant's liability, and not as to the credit to

EXEMPT PROPERTY-CHATTEL MORTGAGES

Chattel mortgages are held to be invalid for want of immediate possession of the goods, and the court directed the property to be sold, refusing to allow any exemption. This case—Waite as Mathews—was carried to the Supreme Court of Michigan, where the judgment was reversed. Judge Campbell, in the I. Creditors have against exempt property, and the officer levying is bound to respect it in the case of artners as well as in other cases. 2. There eems to be no good reason why a chattel mortgage which is otherwise honest should not become operative on delivery of the goods, and take effect from such delivery. If a party could make a new mortgage and immediate delivery which would be valid, no good reason is manifest why one already signed, but needing delivery of the property to complete it, should not be made complete by said delivery, where no one has obtained rights or been prejudiced by the delay."

REPLEVIN BOND-CREDITORS SUING TOGETHER

Executions in favor of five creditors were placed in the hands of a sheriff at one time and, the levy being made, the judgment debtor replevined the goods. In the replevin suit the sheriff succeeded, and the creditors brought one joint suit on the replevin bond. In this case—Kaufman rs Wessels—the defendants insisted that the creditors could not sue together, but they were beaten. They appealed to the Supreme Court of Nebraska, where the judgment was affirmed. Judge Maxwell, in the opinion, said: "We have no doubt that the creditors could join in the action, the judgment being a common fund out of which the executors are to be paid rata.

In the suit of John D. Boyle, of Pitts-burgh, against the Wheeling Iron and Nail Pittsburgh court.

Compound Hand-Vise

Our illustrations represent a form of comunusual gripping power without complicated mechanism, and at the same time works with parallel jaws. Two similar jaws are made parallel jaws. Two similar jaws are made with pins passing through near the top and bottom. Each pair of pins is drilled and tapped to receive a right and a left hand screw. By turning the upper screw in one direction or the other the jaws are made to open and shut. The lower screw, of course, acts on the lower end of the vise in the same manner. Turning the top of the upper screw from one causes the jaws to approach, and turning the top of the lower screw in the same direction produces the same effect on the jaw by separating the vise at the bottom. In this the jaws are closed by the upper screw as firmly as possible by the thumb and The final grip is then given by turne screw at the bottom, the vise work ing in this respect precisely like the hand clamp of the carpenter. The amount of power obtained by means of the thumb and finger appears to be out of all proportion to the strain exerted, and the grip of the tool

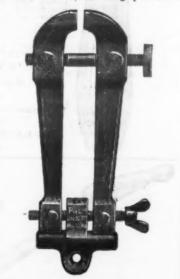


Fig. 1.-Compound Power Hand-Vise

is really astonishing. At the bottom the two parts of the vise are connected by a T-shaped piece having a slot into which the ends pass. This slot is not shown in the engraving. The nuts being in the form of pins, of course enables the screw to work parallel at any angle without binding. The capacity is unusually large, the 6-inch vise jaws opening nearly 11-16ths of an inch, and having as firm a grip at the full opening as when nearly closed. To illustrate the grip of the vise we screwed it on to a vertical plate of iron ½-inch thick and set it up nearly with the force of the thumb and fingers. A weight of 125 pounds at the outer and of the weight of 125 pounds at the outer end of the vise was barely sufficient to cause the jaws to slip. This is certainly a greater gripping force than any hand-vise with which we are acquainted. Some of the chief claims for points of superiority in this tool are the small quantity of material, the symmetry, facility of operation, the parallelism of the jaws and the enormous power.

A very neat application of this tool has been made to carpenters' vises, hand drills &c., and is shown in Fig. 2. The bottom or back of the vise is prolonged and secured to an ordinary brace handle, and the jaws are held by the T-shaped projection, which is



Fig. 2. - Compound Power Brace-Wrench,

prolonged nearly to the lower end of the vice. In this form it will take in bit, broken tool, round, flat, square or three-cornered, and hold it firmly. This size has a range from the smallest up to 1 ¼-inch nut or bolt, and, we should judge, would be an exceedingly convenient and handy tool. Both this form and the hand-vise are made entirely of steel, and the manufacture is carried on in such a way that the parts are all inter-changable, and when broken can be replaced without difficulty. The makers are Cook & McLane, 81 Center Street, New York.

A discovery which has just been made at Aleppo is likely to cause considerable aur-Aleppo is likely to cause considerable sur-prise in military circles, for, according to the Turkish official gazette of that place, a party of engineers, while making excavations beneath the citadel of the town, have come upon a large wrought-iron breech-loading cannon which must have been buried for at least 250 years. That the weapon should be a breech-loader is in itself sufficiently astonishing; but the most extraordinary part of the affair is that the breech mechani almost exactly similar to that which has for Co., to recover \$8770.08 for alleged violation of a coke contract, the defendants filed a plea that they are a West Virginia corporation, and not within the jurisdiction of the Pittshurgh court

Steel Castings in Ship and Marine Engine Construction.*

The object of this paper is to direct the attention of marine engineers and shipbuild-ers generally to the progress that is being made in the introduction of reliable mild steel castings; to elicit information from the various eminent steel makers present respecting the character of the material they are able to produce, and the extent to which are able to produce, and the extent to which they feel it may safely and confidently be used in place of forgings, and to indicate as far as possible the qualities that steel castings should possess to fit them for replacing the principal forgings now used in marine work. Any facts which may be adduced to show that structures now made of large masses of metal worked into shape by the tedious and comparatively unreliable method of piling up and welding together pieces of scrap iron or steel may be made as reliable, if not more so, as cast steel, will have an important effect upon the action of many who, ortant effect upon the action of many who from the want of accurate knowledge, are unable to decide as to the advisability of unable to decide as to the advisability of adopting steel castings in place of forgings, and cannot fail to greatly facilitate progress in this direction. It is well known by those who have the management of steamships, and the responsibility of keeping them in efficient working order, that large forged stern frames and rudder frames, as now made, are seldom absolutely sound. Numbers of cases of these forgings having failed when put to work come under our notice, and afford sufficient evidence of the necessity of some improvement being made, while the mortality of wrought-iron crankshafts belonging to the mercantile marine of this country is excessive. Now, if these parts of steamships and marine engines can be cast sound, solid, thoroughly homogeneous and free from internal strain, and at the same time possessing the requisite strength and ductility, it will be a great advantage for engineers and shipbui'ders, and eventu-ally also for shipowners, to adopt this material for these purposes. At present, how-ever, the subject of solid steel castings of these forms is somewhat in its infancy, and it is but natural that much doubt and sus-picion should be found to exist in the minds of many who for the first time approach the question, just as some four or five years ago great distrust was manifested in many quar great district was mannested in many quar-ters as to the reliability and suitability of mild steel for plates, angles and rivets for shipbuilding and marine boiler making.

The hesitation in adopting the then new

material was doubtless strengthened by the many cases of mysterious fractures, and the instances of excessive corrosion brought forward to show the unwisdom of chang-ing from iron to steel, but these doubts no longer exist, and the superiority of mild steel over iron for the principal structural parts of a ship is now freely asknowledged. In proof of this I may mention that last year there were no less than 73 large steamships built of steel, with a tonnage of about 143,000; that 116 v.ssels, with a total tonnage of 216,784, were building of steel in January last, and that at the present time these are more than six times as ent time these are more than six times as many marine boilers being made in this country of mild steel as there are being nade of iron. I venture to think that this complete change of opinion has, to a great extent, been brought about by the facts adduced, and the knowledge and experience disseminated by means of the papers and the discussions on the manufacture, the composition and physical properties, the uses, the methods of working, the failures, and other interesting points connected with and other interesting points connected with mild steel which have been laid before the members of this and kindred institutions by gentlemen who have made these various points their study. And I feel that similar discussions cannot fail to enlighten us upon the subject of the capabilities of mild steel castings. During the past 12 months several applications have been made by various firms to the society which I by various firms to the society which I have the honor of serving, for their approval of the use, in vessels classed by Lloyd's Register, of steel castings for such purposes as stems, stern frames, rudders, tiller quadrants and other parts of vessels, and also for crank-shafts, levers, link blocks, and other portions of marine engines, these parts having usually been made of wrought iron. Before coming to any decision on the matter, the Committee of Lloyd's Register decided to fully investigate, first, the physical properties of the material intended to be used, such as its strength to resist various kinds of strains, its ductility, the homogeneity and soundness of casting of such forms as were desired to be used, and also as to whether the processes by which these castings were made and the raw materials employed were such as would be reasonably expected to secure certainty as to the results obtained; and, finally, to consider what tests it would be practicable to use to determine the quality of the material after the castings have been made.

With this object in view, visits were made to the three firms in this country who proposed making these large steel castings, and the views of those gentlemen were elicited who have had practical experience with these castings, as well as those who have been actively engaged in heavy forgings for shafting and complicated parts of machinery. Subsequently, also, visits were made to the works of, and consultations held with, the principal steel makers in France, a country where, up to the present time, much greater attention has been bestowed upon such mat-ters than in our own. Tests were also made, not only upon samples of the material cut out of castings, but also upon castings themselves, and similar tests were conducted upon samples of forged iron and forged steel. The result is that the Committee of Lloyd's Register are now convinced that structures can be made of cast steel quite as fit for the purpose intended as those usually constructed of wrought iron, and that they can, at the same time, be made in such a manner as to avoid the uncertainty inevi-tably associated with large iron forgings, owing to the large number of weldings necessitated in them. Although there is no doubt that very successful steel castings

A paper read before the recent meeting of the Iron and Steel Institute of Great Britain by Mr. Wm. Parker. Chief Engineer, Survepor of Lioyd's Register of Shipping.

have been made by each of the three makers referred to as being engaged in this trade—namely, Messrs. Jessop & Sons, of Sheffield; Messrs. Spencer & Sons, of Newburn-on-Tyne, and the Steel Company of Scotland, Glas-gow—it is strange that such diverse opinions and practices prevail at these works, and perhaps equally strange that such opposite opinions are held upon the question of large forgings, both in iron and steel, experience of which has been obtained from the prac-

tice of many years.

A free ventilation of these opinions and of the practices adopted among technical persons cannot fail to be useful. At the works of Messrs. Jessop, for instance, the opinion is held, and the practice is in accordance with this opinion, that, in order to insure a definite composition of the material with the precision which is necessary, and to obtain thorough homogeneity throughout a large casting, it is absolutely necessary to make the steel in crucibles. The material put into each crucible having a definite co osition, it is claimed that the resulting fluid steel remains of identically the same of steel remains of identically the same compo-sition; while the opinion is held that if steel is melted in large masses in a Siemens furnace, although the resulting metal may be sufficiently homogeneous for plate purposes, it is not sufficiently so for many structures where absolute homogeneity and freedom from internal molecular strains is required in every part. At the other works, on the contrary, the opinion is held that homogeneity may be obtained in metal melted in Siemens furnaces. Messrs. Spencer and Sons use both crucibles and open-hearth furnaces to melt their steel, the size of the castings being their only guide in this met. naces to melt their steel, the size of the castings being their only guide in this matter, and they find absolutely no difference as to material, whichever process is used; while the Steel Company of Scotland use the open-hearth furnaces for every purpose. Messrs. Jessop and Messrs. Spencer both seem to hold the opinion that the requisite composition of the resulting steel to incure composition of the resulting steel, to insure composition of the resulting steel, to insure not only strength and ductility, but also solidity and soundness, can be obtained by careful attention to the materials employed. At the works of the Steel Company of Scotland, however, the process is essentially that known as the Terre Noire. The metal is melted in an open-hearth Siemens furnace, a bath being formed of a mixture of manganiferous pig iron and steel scrap by melting these materials together. Successive additions of hot steel scrap are then made until the bath contains a sufficiently low amount of carbon to give the resulting product the hardness desired. There is then added an amount of alloy called silicide of manga-nese, which insures the solidity of the steel

manganese and silicon, as is always done at these works, in place of the older method of using glazed iron—which is iron and silicon without any manganese—is held to be preferable for the following reason: When glazed iron—or iron and si-icon—alone is ed, a portion of the silicon is oxidized by the small amount of oxygen which the metal has taken up, forming a silicate which is very difficult of fusion even at a steel-meltrery annual of this on even at a steel-metring heat; consequently, a certain amount of slag is left intimately mixed with the iron, and metal thus made is composed of particles of metal separated from each other by a very thin coating of film of slag. This renders the resulting metal very "short" and brittle, and no amount of subsequent annealing comand no amount of subsequent annealing completely rectifies it. On the other hand, when an alloy of silicon, iron and manganese when an anoy or sincen, from an manganese is used, a compound slag is formed, into the composition of which the manganese enters. This is very fusible at a steel-melting heat, and rapidly rises to the surface of the metal, leaving the metal itself perfectly free from slag. Whichever process is used for obtaining molten steel, great difficulties have to be expressing in successfully making extractions of overcome in successfully making castings of any but the simplest forms. The high tem-perature required in order to give the metal sufficient fluidity necessarily causes the castings to have a large contraction, which not only is the great cause of "piping," since steel castings cannot be "fed" like other steel castings cannot be "fed" like other castings, but in order to prevent fracture of the casting while in the mold, great judgment is required in making the mold sufficiently fragile to yield under the contraction strain, and at the same time to give it a sufficiently strong to withstand the wash and pressure of the metal while it is fluid. The temperature, too, is so high that it is difficult to find a material suitable for facing the molds refractory enough to withstand the temperature.

A report soon to be issued by the Dominion refractory enough to withstand the tempera-ture and at the same time avoiding chemical action on the metal used. When the casting is satisfactorily obtained, great differences of opinion are held as to the necessity for or the utility of annealing. At Messrs. Jessop's the opinion is held that the careful cooling of the original casting, so as to insure a uni-form cooling throughout, is the only means of insuring molecular equilibrium and freedom from internal strain, and that any sub-sequent heating must necessarily be far from uniform, the outer and thinner portions being first heated, and that this want of uniformity of temperature produces molecular strains in the material which subsequent cooling, however carefully performed, can-not entirely remove. All other steel makers, however, consider that the cooling which takes place in the mold cannot be so uniformly performed as to leave the casting free from molecular strains, while even if this could be done, the rigidity of the mold itself must necessarily create some molecular strains, and they consider that the only way in which these strains can be set at rest is by careful annealing. The annealing process here meant is not a decarburizing one, no chemical change being produced in the mate-rial, but it consists of slowly and uniformly raising the temperature of the casting to a bright red heat, keeping it at that temperature for a length of time, dependent upon the form and dimensions of the casting, and then slowly and uniformly cooling it. M. Pourcel, of Terre-Noire, attaches great

importance, not only to annealing, but also them a greater degree of ductility. He contends that the metal in castings—especially those of a complex character, with abrupt terminations and changes of form, cast in a sand mold—cannot be of a uniform nature. In castings comprising various degrees of thickness the thin sections of metal must cool more rapidly than the thick ones, and besides setting up strains, this varying rate of cooling causes a difference of crystalliza-tion in the various parts, and that to such an extent that uniform crystallization and molecular equilibrium in such castings cannot be entirely obtained by merely annealing, which is effectual for this purpose in ordinary plain castings. Tempering, or in other words cooling, the castings in oil is, however, very beneficial. The first application entirely beneficial. beneficial. The first application entirely transforms the large crystalline grain of the metal into a finer and more homogeneous grain, while each successive repetition further adds to its homogeneity, tenacity and ductility. As an illustration of this, I had four specimens cut from a casting made at Terre-Noire and tested under my own supervision. The first specimen, in the same condition as when cut from the casting, broke with a tensile strain of 32.07 tons per square inch and an elongation of 16 per cent. in a length of 5 inches; the next specimen, which was annealed, broke at a stress of 33.7 tons per square inch, having an elongation of 17 per cent.; the third specimen was annealed and tempered in oil, and broke at a stress of 38.6 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch having an elongation of 18 tons per square inch and 18 tons per square inch an square inch, having an elongation of 17 per cent.; and the fourth specimen, which was twice tempered in oil, broke with a stress of 41.1 tons per square inch, with an elongation of 15 per cent. The specimens can be seen on the table, and on examination of the fractures it will be observed that the structure of the material is very much closer and finer after each annealing and tempering. It must be remembered that the molecular trains induced through irregular cooling are not peculiar to steel-they occur in all castings, and although in brass and gun-metal castings the ductility of the metal is sufficiently great in comparison with the con-traction in cooling to warrant these strains traction in cooling to warrant these strains being practically ignored, yet in east iron the want of ductility is such that complicated castings are probably never made without being "drawn," while it is absolutely im-possible to east many forms in iron; and even with all the ingenuity obtained from long years of experience, it is not by any means uncommon for large cylinders and means uncommon for large cylinders and other marine engine castings to be actually fractured in parts before being taken out of the mold. Even in forgings these strains are sufficiently severe to cause actual rupness, which insures the solidity of the steel and its freedom from blow-holes, the metal being finally tapped into a ladle and run into molds in the usual manner. Throughout the operation the greatest care is taken to prevent oxidation of the metal as far as possible. No ore is used, as the company, being large makers of steel plates, always have available a large quantity of mild steel scrap of definite composition.

The plan of using a compound of iron, manganese and silicon, as is always done at these works, in place of the older method of the steel plates, always done at these works, in place of the older method of the steel plates. The plan of using a compound of iron, manganese and silicon, as is always done at these works, in place of the older method of the steel plates. The plan of using a compound of iron, manganese and silicon, as is always done at these works, in place of the older method of the metal as the mold. Even in forgings these strains are sufficiently severe to cause actual rupture in cooling—for instance, the cavities or so-called flaws often found in the center of large couplings forged with shafts are due to the fact that the outer portion of the coupling first cools and becomes comparatively unyielding, and in the subsequent cooling the contraction of the interior portion, being prevented from taking places are sufficiently severe to cause actual rupture in cooling—for instance, the cavities or so-called flaws often found in the center of large couplings forged with shafts are due to the fact that the outer portion of the coupling first cools and becomes comparatively unyielding, and in the subsequent cooling the contraction of the mold. Even in forgings these strains are sufficiently severe to cause actual rupture in cooling—for instance, the cavities or so-called flaws often found in the center of large couplings forged with shafts are due to the fact that the outer portion of the coupling first cools and becomes comparatively unyielding, and in the subsequent cooling—for instance, t portion, draws the metal assumer at or near the center. It will, no doubt, be interesting to note some of the objects which have been suc-cessfully made in this country from cast steel. [Plates illustrating stern frames, rudders and [Plates illustrating stern frames, rudders and stem pieces, such as are now being used in the building of merchant steamers, made on Cooke & Mylchreest's patent by the Steel Company of Scotland, W. Jessop & Sons and J. Spencer & Sons, were exhibited.] It may be stated that there have already been about 17 frames made, the largest being about 6½ tons in weight. There will also be found on these plates sketches of crank shafts of very large dimensions, made by the two latter firms, the heaviest weighing about 8 tons, and being some 16½ inches in diameter.

(To be Continued.)

New York Labor Statistics .- Commissioner Charles F. Peck, of the new State Bureau of Labor Statistics (headquarters in the Capitol Building at Albany), issues a circular in which he says: "In pursuance of the duties imposed by Section 2 of said of the duties imposed by Section 2 of said act, the Commissioner will cause to be sent out, at an early day, a series of official blanks to be filled up by the person to whom they are sent, and returned to this Bureau on or before a specified date. It is earnestly hoped that all classes of citizens will respond cheerfully, and by a hearty co-operation with the Commissioner assist in accomplishing the

—A report soon to be issued by the Dominion Government shows that the total amount expended on the public works of Canada has expended on the puller works of Canada has been \$164,000,000, of which \$68,000,000 was expended before and \$96,000,000 after the confederation. The largest portion of this outlay has been made upon railways, the Government having expended \$69,000,000 in the construction of these works, while \$21,000,000 has been granted in the shape of subsidies to various roads. The canals have cost \$42,000,000, of which more than \$23,000,000 has been spent since the confederation; public buildings, \$16,000,000; har-bors and breakwaters, \$6,000,000, and light-



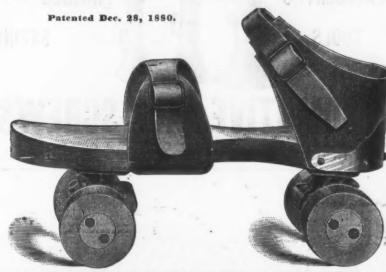
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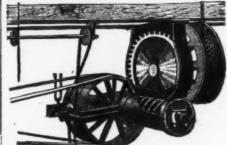
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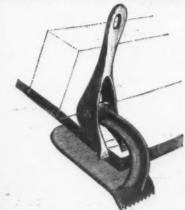
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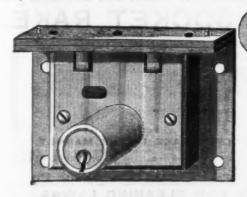


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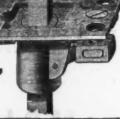
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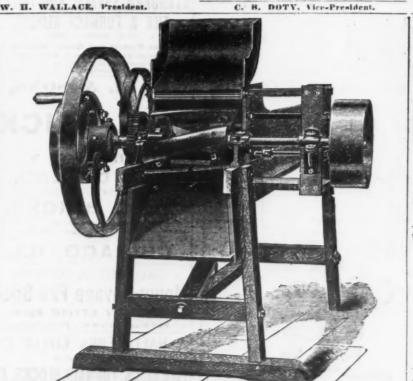
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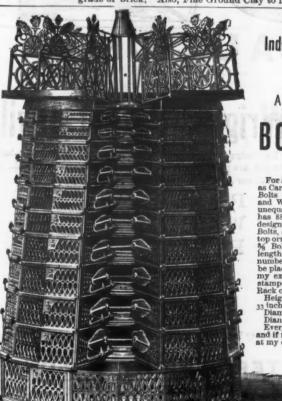
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Lundberg Gustaf, 36 Kilby, Boston, Mass.
Lundell Chas., G. (Swedish), Boston, Mass.
Lundell Chas., G., Syon, E.,
Naylor & Co., 24 Brosdway, N. Y.
Orden & Wallace, 85, 59, 89 and 01 Elm, N. Y.
Herson & Co., 24 Brosdway, N. Y.
Orden & Wallace, 85, 59, 80 and 01 Elm, N. Y.
Wallace Wm, H. & Co., 44 Brosdway, N. Y.
Wallace Wm, H. & Co., 44 Brosdway, N. Y.
Wallace Wm, H. & Co., 44 Brudson, N. Y.
Wilson E. H. & Co., 64 Budson, N. Y.
Wilson E. H. & Co., 64 Budson, N. Y.
Len Fences.
Champion Iron Fence Co., Kenson, O. Iron Fences. Champion Iron Fence Co., Kenton, O.... Iron Founders. Bannan Fras. R., Postsville, Pa.... Bannan Fras. R. Pottaville, Pa.

Fran. Pig. Importers or,
Abbott Jere & Co. (Swedish). New York & Boston...
Hubbar', Chas., & Cliff. N. Y.
Lee James & Co... 72 Pine. N. Y.
Lee James & Co... 72 Pine. N. Y.
Lundberg Gustaf, Boston, M. vs.
Lundeli, Chas. G. (Swedish). Boston, Mass.
Richardson, J. O. Philadelphila.
Ross. James W. Chicago, Ill.
Wessels Ed. J., 17 Cedar, N. Y.
Williamson James & Co., & Wall N. Y.

Fran. Sheet, Manufacturers or,
Jersey City Galvanizing Co., Jersey City, N. J.
Lefferts, Marshall & Co., o Beskman, N. Y.
Wood W. D. & Uo. Pittsburgh, Pa. Iron, Steel and Nails.
Morris, Wheeler & Co., 14 Cliff, N. Y. Jack **crews.

Illinois Iron and Bolt Co., Carpentersville, III.

Millers Falls Co., 74 Chambers, N. Y. Lanterns. Manufacturers of. Diets R. E., 54 and 56 Fulton. N. Y... Lathes, Pulley Blocks. Drills.
Harrington E. & Son, Philadelphia, Pa Lawn Mowers.

Carr & Hobson, 47 Cliff, N. Y.
Chadborn & Coldwell Mig. Co., Newburg.

Lemon Squeezers.
Dean Win. B., 43 Murray, N. Y.

Kyser & Rex. Frankfort. Philadelphis.
Onderdonk R., 495 Grand, N. Y.

Ripley Mig. Co., Unionville, Cona. Comstock Wm. T., 6 Astor Place, N. Y... Locks and h nobe.—Mansfacturers of.
Durtle & McCarty, of Chambers, N. Y.
Hillebrand & Wolf, 105 St. Philadelphia
Quackenbush J. E. & Son. 53, 8th av. N. Y.
Homer & Co. Newark, N. J.
Smith & Egge Mig. Co. Bridgeport, Conn.
The Charles Parker Co. Merden, Conn.
Whipple Mig. Co., Cleveland, O. Lubricator Cups.
Detroit Lubricator Co.. Detroit, Mich. Detroit Lubricator Co. Detroit, Mich.

Machinery.
Adf John. New Haven. Conn.
Bliss, E. W., for Plymouth, Brooklyn
Dodge, Helier & Lyons, Newark, K. J.
Fornatth S. C. & Co., Manchester, N. G.
Garvin E. E. & Co. 136 Centre, N. Y.
Peerless Punch and Shear Co., 36 W. Dey, N. Y.
Pittsburgh Mg. Co., Fittsburgh, Pa.
Purdy Sachine Co., Cleveland, O.
Sellers W. & Co., Phila. and J. Liberty, N. Y.
Smith H. B. Mach. Co., Phila. And J. Liberty, N. Y.
Stokes & Parrish Phila., Pa.
Stow Flexible Shaft Co., Limited, Philadelphia,
The Stiles & Parser Press Co., Midaletown, Conn
Wetheriti Robert & Co., Chester, Pa.

Machinists' Teois and Supplies. Western Robert & Co., Consert R. Markiniste' Teols and Supplies.
Blaisdell P. & Co., Worcester. Mass.
L. B. Flanders Maschine Works, Philadelphia.
Johnson L. H., Fr., & Co., Philadelphia, Ps.
King J. M. & Co., Waterford. N. Liberty, N. Y.
Sellers Win, & Co., Phila, and 70 Liberty, N. Y.
Wickersham & Co., Philadelphia, Fs. Mailets.
N. Y. Handle and Mallet Works, 456 E. Houston.
Penfield Block Co., Lockport, N. Y. Metais.

Detroit Copper & Brass Rolling Mills, Detroit, Mich. 2
Dickerson, Van Dusen & Co., 29 and 31 Cliff. N. Y... 2
Gl i fatthew, Jr. & Co., Philadelphia, Ps. ... 5
Nayior & Co., 99 John, N. Y. ... 5
Northrop A. C., Waterbury, Coun. ... 5
Northrop A. C., Waterbury, Coun. ... 5
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Phelps, Lodge & Co., Cliff, bet. John & Fulton, N. Y. 2
Philadelphia, Simulting Co., Limited, us Arch, Philadelphia, A. & Non, cor, South and Penn, Philis. 1

Motalinguis.

Booth, Garrett & Blair, 919 Cnant, Philadelphia.

Booth, Garrett & Blair, 919 Cnant, Philadelphia.

Mills.—Newell's, 34 Cortlandt, N. Y.

Mine Lamps. - Leonard Bros., Scranton, Pa., Melding Machines.
Drummond Mfg. Co., Louisville, Ky...... Whitehead Bros. 515 and 617 W. 15th, N. Y.

Meuse Traps.
Riblev Mig. Co., Unionville, Conn.

**Smith & Exge Mig. Co. Bridgeport Conn.

**Natis...—E. & G. Brooke Iron to, Birdshaw, Pa.

Cumberiand Nall and Iron Co., Philadelphia, Pa.

**Fuller Bros. & Co., 130 Greenwich, N. P.

**Jefferson Iron Works, Steubenville, O.

Oxford Iron Co., St. Washinston, N. Y.

**Rowland Jas. & Co., 202 N. Delaware ave., Phila.

**Becheenberger & Co., Pittsburgh, Pa.

***Schoenberger & Co., Pittsburgh, Pa.

***Schoenberger & Co., Pittsburgh, Pa. Nalls, Cur.—Blankenship, R. E., Richmond, Va. Ross W. K., 97 Chambers, N. Y. Mail Machinery. Pittsburgh Mfg. Co., Pittsburgh. Ps Vickel Platers' Supplies.

Hanson, Van Winkle & Co., 92 Liberty, N. Y.....
The Zucker & Levett Chemical Co., 40 to 44 West 10th. N. Y.... Nowiand w.m. & Harvey. Frankisty, Finance, Nuts. Bolla. etc., Makers of, Allentown Rolling Mill Co. Allentown. Pa... Empire Nut Co., Pittsburgh, Pa... Lovej. & Drake. 101 Chambers, N. Y. Parkes Thos., Buffalo. N. Y. Rhode Island Tool Co., Providence, R. I. Russell. Burdsall & Ward. Port Chester. N. Y. Standard Nut Co., Pittsburgh, Pa... Oil Stones.
Chase Geo., 107th and Harlem River. N. Y..... Oren,-Jackson Iron Co., Cleveland, O. Paint. Enamel. Enamel Paint Co., Cleveland, O..... Patent Solicitors.
Howson & Son. Phila., and Washington, D. C.....
Stocking E. H., Washington, D. C..... Pattern Letters and Figures. Knight H. W., Seneca Falls, N. Y.... Pens. Steel. Esterbrook Steel Pen Co., 26 John, N. Y..... Phonoher Bronze.
Phonohor Bronze Smelting Co., Limited, 512 Arch
Philadelphia. Picks. Makers of. Pierson & Co., 24 Broadway, N. Y Pig Iron Brenker. Blake Crusher Co., New Haven, Conn...... Pipe Cutters. Pancoast & Maule, 243 & 245 424 st., Philadelphia...33 Pipe Threading and Cutting Machine. Pipes. Fittings. etc.. Makers of.
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McNeal A. H., Burlington, N. J.
Mellert Foundry and Machine Co., Limited, Read-Mellert Foundry and Machine Co., Limited, R. Ing. Pa..
Reading Iron Works, Philadelphia, Pa.....
Wood R. D. & Co.. 400 Chestnut. Philadelphia..
Wyckoff A., Elmira, N. Y. Plane Irons. Manufacturers of. Buck Bros., Millbury, Mass...... Planes, Manufacturers of.

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Reccher & Peck. New Haven. Conn.
Bliss E. W., 167 Piymouth, Brooklyn.
Merriman A. H., West Meriden, Conn.
Pecerless Punch & Shear Co., 28 W. Dey. N. Y..
The Stiles & Parker Press Co., Middletown, Co Printers.-Gies & Co ... Pulleys. Medart Pat. Pulley Co., St. Louis, Mo Pumps, Makers of.
Douglas W. & B., Middletown. Conn...
New England Butt Co., Providence, R. 1.
Silver & Deming Mfg. Co., Salem. O.
Union Mfg. Co., & Chambers. N. Y Punch and "hears. Welch. A., Lambertville, N. J. Rails. Iren and Steel. Allentown Rolling Mill Co., Allentown, Pa.... Allentown Rolling Mill Co., Allentows, Pa.
Cambris iron Co., Johnstown, Pa.
Carnegie Bros. & Co., Limited, Pittsburgh, Pa.
Cleveland Rolling Mill Co. Cleveland, O.
Godeffroy & Co., 3 New, N. Y.
Hernstell, L. 20 Nassau, N. Y.
Montour iron & Steel Co., Danville, Pa.
Pittsburgh Bessemer Steel Co., Pittsburgh, Pa.
Scranton Steel Co., & Broadway, N. Y. Bailway Supplies.
Fox a Drummond, 68 Wall. New York.
Jesup F. W. & Co., c? Liberty. N. Y.
Metcaif Paul & Co., Pittsburgh, Pa.
L. M. Kumsey Mfg. Co., St. Louis, Mo... Rakes .- Halteman W. A. & Co. Dayton, O. The F. F. Adams Co., Eric. Pa. Razore.
J. R. Torrey Razor Co., Worcester Mas Refractory Compends.

Renderson James, Bellfonte, Pa. Rein Holders. Pentz Rein Holder Co., Canton, O. Pents Rein Holder Co., Canadas,
Blake & Johnson, Waterbury, Conn.
Clark & Cowles, Plainville, Conn.
Falis Rivet Co., Cuyahoga Falis, O
Gülmor Win., of Win, Baltimore, Md.,
Grundy & Disosway, 1c. Greenwich, N. Y.
Harrison C. F., Cuyahoga Falis, O.
Lo cloy & Drake, 1ot Chambers, N. Y.
Old Colony Rivet Co. Kingston, Mass.
Standard Rivet Co., Cleveland, O.,
Townsend W. F. & Co., Pittsburgh, Ps., Hock Breakers.
Blake Crusher Co., New Haven, Conn.
Gates Iron Works, Chicago, Ill...... Relis. Hending Hilles & Jones, Wilmington, Del... Reofing. - Garry Iron Roofing Co., Cleveland, O., New T., 39 John, N. Y.... Roof Brackets. Hetzel W. H. & Co., Syracuse, N. Y.... McIntire C. H., Reading, Pa.... Bules. Manufacturers of Stanley Rule and Level Co., 29 Chambers, N. Y.... Sad Irons. —Enterprise Mfs. Co., Philadelphia.... Band and Emery Paper, Makers of. Bander, Adamson & Co., 67 Beekman, N. Y. Sash Holders. Sawa, Makers of.
Andrews E. & Sons, Williamsport, Pa.
Barry W. B., Indianapolis, Ind.
Diston Henry & Sons, Phita.
Richardson Saw Works, Newark, N. J.
Wheeter, Hadden & Clemsen Mrg. Co., Elddle
town, N. Y. Saws (Barnes). Little Chas. E., & Fulton. N. Y.... Saw Vises. - Seneca Mfg. Co., Seneca Falls, N. Y. Scales. Manufacturers of.
Buffalo Scale Co., Buffalo, N. Y.
Chatlilon John & Sons, or Cliff, N. Y.
Olsen Finius & Co., Philadelphia.
Richle Bros., Philadelphia. Pa..... Scrapers, Road. Austin F. G., Skancateles, N. Y. Champion Scraper Co., Troy, N. Y. Kilbourne & Jacobs Mfs. Co., Columbus, O., The York Mfs. Co., Limited, Fortamouth, O. Miles F. S., 205 Quarry, Phila.... Philadelphia Screw Co. Philadelphia, Pa. Screw Cutting Machinery.
Wiley & Russell Mig. Co. Greenfield. Mass.... Scythe Stenes. Shaft Carriers. Taylor & Challen, Birmingham, Eng... Shears and Solssors.
J. Wiss & Sons, Newark, N. J...... Shears and Squeezers. Birmingham, Conn....29

Shears. Irea.
Eureka Shear Co., Philadelphia, Pa.
Eureka Shear Co., Philadelphia, Pa.
Watson & Stillman, 4705 Grand. N. Y.
Paerless Punch & Shear Co., 38 W. Dav. N. Y.
Sheet Irea Building Materials.
Northrop A. & Co., Pittsburgh, Pa. Plinois Zine Co., Peru, Ill..... State Chandlery. Shutters. Revolving Steel. Clark Bunnett & Co., 162 and 164 W. 27th, N. Y Milton Sieve Co., Limited, Milton, Pa.... Mifters. Hunter Sifter Mfg. Co., Cincinnati, O..... *kates, Ice.
Dame, Stoddard & Kendall Boston, Mass.....
Sutton Wm. A., 222 to 230 West 30th, N. Y..... Skates. Roller Pope & Stevens. 114 Chambers, N. Y..... Pope & Stevens, 114 Champers, 8, 1.
Smelting Works,
Gray Robert, Cleveland, 0.
Martin Reynolds, brooklyn, N. Y.
Reeves Paul S., 760 South Broad, Phila.... Sporting Goods. Kittredge B. & Co. . Cincinnati, O..... Spring Hingea. Van Wavoner & Williams, 82 Beekman, N. Y.....44 Van Wasoner & Williams, oz becaman, A.
Springs, Steel Spiral.
Cary & Moen, 24 W. 20th. N. Y.
Rowland wm. & Harvey, Frankford, Phila..... Steam Traps.
Curtis Regulator Co., Boston, Mass.... Steel Figures and Alphabets. Bellows B. F. Cleveland, O. Bellows B. F., Icevelland, O.
Steel Importers.
Abbott Jsrc & Co., New York and Bostom.
Carr J. & Rilley 9 Gold, N. Y.
Hobson Francis & Son, 97 John, N. Y.
Montgomery & Co., 105 Fulton, N. Y.
Pierson & Co., 24 Broadway, N. Y.
R. H. Wolff & Co., 92 John, N. Y.
Woltman & Mickerts, St. Louis, Mo. Hubbard Chas., 4c Cliff, N. Y.
Jones B. M. & Co., 11 and 13 Oliver, Boston, Mass

Steel Manufacturers.
Albany & Renasciaer Iron & Steel Co., Troy, N. Y.
Anderson, Du Puy & Co., Pittsburgh, Pa.
Chrome Steel Works, Brooklyn, N. Y.
Chrome Steel Works, Brooklyn, N. Y.
Chrome Steel Works, Brooklyn, N. Y.
Cleveland Crucible Steel Co., Cleveland, O.
Cleveland Golling Mill Co., Cleveland, O.
Cleveland Bolling Mill Co., Cleveland, O.
Cleveland Will Co., Cleveland, O.
Cleveland Will Co., Cleveland, O.
Gautler Steel Dopartment of Cambria Iron Ge.,
Johnstown, Pa.
Jorsey City Steel Works, 9a John, N. Y.
Linden Steel Co., (Ld.), Pittsburgh, Pa.
Midvale steel Co., Nicetown, Phila., Pa. 6a
Miller, Metcalf & Parkin, Pittsburgh, Moss F. W. & John, N. Y.
Pennsylvania Steel Co., 26 S. 44h, Phila.
Philadelphia Steel Forge, Philadelphia, Pa.
Rowland Wm. & Harvey, Frankford, Phila.
Sheneber Matthias Ge., Pittsburgh, Pa.
Singer, Rinick & Co., Pittsburgh, Pa.
Singer, Rinick & Co., Pittsburgh, Pa.
Singer, Rinick & Co., Pittsburgh, Pa.
Singer Minick & Co., Pittsburgh, Pa.
Singer Minick & Co., Pittsburgh, Pa.
Singer Minick & Co., Pittsburgh, Pa.
Singer Single & Co., Sheffeld, England.
Sieel Waldow S. & C., Sheffeld, England.
Steel Waldow S. & C., Sheffeld, England. Steel Shafting. Temple & Lockwood, 12 Platt. N. Y... Steel, Sheet.
U. S. Iron and Tin Plate Co., Demmier P. O., Alle gheny Co., Pa... gnony Co. Fa.

Steel Springs. Manufacturers of.
Canton Spring Co., Canton, O.
Cary & Moen, 234 W. 29th, N. Y.
Chatilion John & Sons, 91 and 61 Cliff, N. Y. Steel, Teel.—Brown & Co., Pittsburgh, Pa... The Bolton Steel Co., Canton, O.,.... Stocks and Dies.
Wiler & Russell Mfg. Co., Greenfield, Mass Stove Mepairs.—Metsner W. C., Chicago, Ill. Stove Trucks. Tucker Alarm Till Co., Indianapolis, Ind... Strops, Razor.
J. R. Torrey Razor Co., Worcester, Mass. Philips E. & Sons, Journal Andrews, Taps and Dies.
Carpenter J. M., Pawtuckei, R. L.
Manning, Maxwell & Moore, III Liberty, N. T.
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Tea and Coffee Pets.
Purvis R. C., Philadelphia, Pa. Purvis R. C., Philadelphia, Pa.
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Olsen Tinius & Co., Philadelphia, Pa.
Rishle Bros., Philadelphia.
Tire Upsetters.
Little Giant Mfg. Co., Millport, N. Y...
Teols. Steam and Gas Fitters'.
Eaton, Cole & Burnham Co., & John, N.
D. Saunder's Sons, Yonkers, N. Y...
Teol Cheests Eaton, Core & Sons, Yonkers, N. I.
D. Saunder's Sons, Yonkers, N. I.
Tool Chests
American Tool Co., 116 Chambers, N. Y.
Transon Lifters.
Wollensak J. F. Chicago, Ill. Transom Lifters.
Wollensak J. F. Chicago, Ill.
Traveling Crance.
The vale & Towne Mg. Co., Stamford, Conn.
Tree and Post Hole Diggers.
Chieftain Hay Rake Co., Canton, O.
Trimmer. Tree and Hedge.
Lee E. & Co., Rochester, N. Y.
Trucks. Manufacturers of.
Richle Bros., ch., above Master, Phila.
Tube Scrapers.
Canimers Spence Co., 23 John, N. Y.
Huffner & Duun. Philadeiphia, ra.
Charles H. Beelev & Co., Chicago, Ill.
Tubes. Scambess.
Charles H. Beelev & Co., Chicago, Ill.
Tubes. Scambess.
Charles H. Beelev & Co., Chicago, Ill.
Tubes. Scambess.
Grant Buckles.
Trap Buckles.
Griff Bros., 26 First, Brooklyn, E. D.
Tarning (Weed): Merrill Bros. 25 First, Brooklyn, E. D.

Tarning (Wood).

Ripley Mg. Co., Unionville, Coan.

Twist Drille, Macker of.

Morse Twist Drill & Mach. Co.. N. Bedford, Make.,

Valves, Gens. Water and Steams.

Luciow Valve Mg. Co., Troy. N. Y.

The Eddy Valve Co., Waterford. N. Y.

Jenkins Bros. 71 John. N. Y. Jankins Bros., 7t John, N. 1.

V apor Terchese
Loomis T. R. Casenovia, N. Y
Leomis T. R. Casenovia, N. Y
Vasca, Hoker Hermann & Co. rot Duane, N. Y. 32
Lovejoy & Drake, 10: Chambei, N. Y. 52
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Frentiss Vise Co., 25 Dey, N. Y. 53
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Seaman & Co., Millport, N. J. 39

Vise Seaman & Co., Millport, N. J. 39

Vise Seaman & Co., Millport, N. J. 39 Seaman & Co., Minpore, Water Filiers.

Gidney Shepard & Co., Buffalo, N. Y... Water Filters
Sidney Shebard & Co., Buffaio, A.,
Water Meters,
National Meter C., 51 Chambers, N. Y.,
Water Wheels
Leffel James & Co., Springfield, O.,
Laftel James & Co., Springfield, O.,
Wheels, Haitread,
Bowler & Co., Cleveland, O.,
Swhitney A., & Sons, Philadelphia,
Whitney A., & Sons, Philadelphia,
Whetstone, —Pike A. F., Pike station, N. H.,
Whetstone, The Co., Cleveland, O.,
Whitney A., & Sons, Philadelphia,
Onarl, N. Y.,

18 Window Screens. Louderback Edw n & Co., Philadelphia, Pa... Window Supports. Hugunin R. S., Hartford, Conn... A. Field & Sons, Taunton. 2008.
Wire & Co. Montreal, Can. 28
Lesile A. C. & Co. Montreal, Can. 28
Wire & Ope, Iron and Steet, Makers.
Broderick & Bascom. St. Louis, Mo. 2
Hazard Mfg. Co., Wilkesbarre, Pa. 2
Leschen A. & Son, St. Louis, Mo. 4
Wood-Working Machinery.
L. M. Rumey Mfg. Co., St. Louis, Mo. 42
Woonches, Manufacturers of. Wringers Altxander Zine Co., La Sallo, Illyè
Matthiessen & Heggier Zine Co., La Sallo, Illyè

METALS.

NEW YORK WHOLESALE PRICES, June 14, 1883.

-	- 1
IRON.—Dury. Pars. 1 to 1260. W m Sheet. 8 Proposed Soroll, 124 to 1260. W m provided, that not the above Iron shall par a less rate of duty at percent. Pig. 37 w ton; Pollshed Sheet. 90. Wrought Scrap. 38 W ton; Coat Scrap. 36 % ton; Irond. rot. W m & merican Iron Foundry. No. 12.	and ione ihan i b ; tail
# merican From Foundry, No. 12 # 100 18.00 @ 1	10.50
Eginton. # ton 21.24 (6): Carnbroe # ton Oitness # ton 21.46 (6): Shotts # ton Gicnernock # ton 13.46 (8):	13.00 4.75 14.00 13.00
I Angloau	14.50 14.00
Berus. Wrought, Wion, from ship and yard 25.00 @ 2	a.oc
Bar Iron from Store. Common Irob % to: in. round and square 106 in.x% to: in	200
Refined from: # to 7 in. round and square # 5 \$1.50 @ 1 2 to 6 in. % and 4-10 # 5 2 to @ 2 Rods — \$6 and 11-16 round and square. # 5 2 to @ 2 Rods — \$6 and 11-16 round and square. # 5 2 to @ 2 Bands — \$10 682 = 66 to No. 12 # 5 2 to @ 2 Norway Nail Rods # 2 2 70 Norway Nail Rods # 1 1 2 8 8 2	600 600 30 30
Common R. G.	- 14
25 to 26	al S
Galvanized, 21 to 24	1
Patent Planished	de p
which Copper is a component or chief value), 40 and valorem. American Inget	re. I
ad valorem. American Ingot	8 I 60 I 80 8
Secment and Pattern Sheets.	60
I occumptive Fire Box Shoess. Sheathing Copper, over 13 oz. F sq. ft. R 3 s Bott Copper Bottoms. R 3 s G x S Copper Bottoms. R 3 s G x S Copper Is Sheathing except 1424 inches, and m	60
SO STORED A OF TO THE RATE OF	
All other size Sheets, and F sq. ft. For tinning both aides, double the above amount. O'NELLS PATENT FLANISHED COPPER.—Not.	17
14 - 3 d 16 os. and heavier. ** B 370 Hy the case. ** B 370 Hy the	o Bi
74 and 16 on and beavier	e 2
Fellow Sheathing metal. Fellow Sheathing metal. HRASS. Found & Sharp's Gauge the Standard for Metal	
rown & Sharp's Gauge the Standard for Metal Old English Gauge the Standard for Wirs, BRASS MANUFACTURERS' PRICE LIST.—dis. 30 %. June to 1880.	1
Cash prices for Roll and Sheet Brass. For less quar	
ties than 100 hs add 30. Wh. HOH BRASS. Ati Wes, not thinner than No. 38, wider than 2 in., not wider than 14 in.	wi Wi Mi
ties than no 3s add 30. % NOS most thinner than No. 28, wider than 2 in, not wider than 14 in All Nos. to No. 28, inclusive, and widths over 14 to 20 in. inclusive All Nos. to No. 28, inclusive, and widths over 20 to 30 in. inclusive 140. % In Advance on each No. above Nos. 28 to 38, in.	e Chi
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Add we cents, 16 cent for each additional centing

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Paints, Oils, &c.

	Paluts.	
	Black Lamp, Coach Painters. Black Lamp, Ordinary Black Porty Drop, fair. 12 3 16 Black Porty Drop, best Black Paint, in oil. Kegs 8c; asa5'd cans, its Blue Prussian, fair to best, in oil. 46 8 56 Blue Prussian, fair to best, in oil. 46 8 56 Blue Chinese dry Too Blue Pittemarine 18 9 30 Brown, Spanish Brown, An Dyke 19 26 Green, Chrome. Green, Chrome. 14 8 16 26 Green, Paris. Grod, 200 Dest, 3c Green, Paris, in oil. Green, Paris, in oil. Green, Paris, Brown W B 15e Iron Paint, Brown W B 15e Iron Paint, Ground in oil, Bright Red. B 5 6 c Minoral Paint, Oround in oil, Bright Red. B 5 6 c Minoral Paints, Oround in oil, Brown B 5 6 c Minoral Paints.	1
	Black Ivory Dron, fair	1
	Black Ivory Drop, best	-
	Black Paint, in oil kegs 8c; asst'd cans, 110	1
ı	Blue Prussian, fair to best	2
ı	Blue Prussian, fair to best, in oil	
۱	Rive Ultramarine	
4	Browa, Spanish.	1
1	Brown, Van Dyke	
1	Green, Chrome 15 @ 230	1
1	Green, Chrome, in oil	1
1	Green Paris in oil good son best see	1
ł	Iron Paigt, Bright Red.	П
1	Iron Paint, Brown Brown	- 1
ı	Iron Paint, Purple 3 c	1
1	Iron Paint, Ground in oil, Bright Red h & 61ec	1
1	fron Paint, Ground in oil Brown	1
ł	Iron Paint, Ground in oil, Purple	1
1	Mineral Paints 2 6 40	-1
ł	Orange Mineral 1sc	1
ı	Red Lead, American	1
ł	Red Venetian in all	1
Į	Red Indian dry	1
ł	Rose Pink	1
ĺ	Stenna. American, kaw, powdered	1
I	Sienna, Burnt, powdered	1
l	Sienna, Burnt, 12 Oil	1
l	Uniber Burnt nowdered	1
ı	Umber, Burnt, in oil	ı
ľ	Umber aw, powdered	ı
ı	Umper. Raw. in oil 10 @ 16 @ 48c	ı
l	Vermilion, Chinese	1
ŀ	Vermillon, English	ı
l	White Load American pure dry	ı
l	White Lead, American, pure in oit.	1
l	White, Paris, English, primein buis, a to 2 c	1
I	Yellow Ochre, French	ł
ŀ	Yellow Ochre, French, in oll. asst'd cans, ito; kegs, se	t
ı	Iron Paint. Ground in Oil, Purple. \$ 5 6 c Mineral Paints. 25 6 c Orange Mineral 1 10 c Orange Mineral 1 10 c Bed Lead, American. 10 c Bed Lead, American. 10 c Bed Lead, American. 10 c Bed Lead, Lamerican. 10 c Bed Venetian, in Oil assi'd Oans, in 0; kegs, &c Bed Venetian, in Oil assi'd Oans, in 0; kegs, &c Bed Venetian, in Oil assi'd Oans, in 0; kegs, &c Bed Lead, Lamerican, Law, powdered. 4 c Better 10 c Bett	ı
ŀ	Yellow Chrome, in etl	ı
ŀ	Yellow Chrone, in oll. 17@ 37c Yellow Chrone, in oll. 4 @ 18 @ 3c Zinc White, American No. 1, ary Zinc White, Pench (* arts) dry	1
	Ziuc White, American No. 1, in ollgc	L
ı	Zine White French in oil	ı
	Oila.	Ł
	Zinc Wnite, French (Faris) dry 8.6 ior Zinc Wnite, French, the oil is 6 ii fe Clinseed Raw, in casts and bois 90 6 oc Linseed Boiled. in caskr and bois 90 6 oc Linseed Acieutts 6 6 90 6 oc Bienched W naic. 9 48.6 0 Bienched W naic. 9 48.6 0 Bienched Sperm #81.8 1.7 0 Bienched Elephant 90 10 10 10 10 10 10 10 10 10 10 10 10 10	I
	Linseed Botted, in casks and bbis	ı
	Linseed, Calcutta 8 @ 590	L
	Blonched Spurm	
	Riesched Elephant	ı
į	Signal	Ŀ
	Frime Lard 920	
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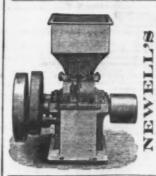
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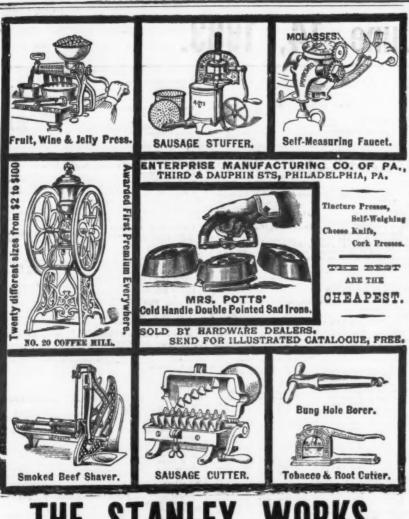
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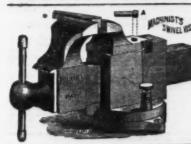
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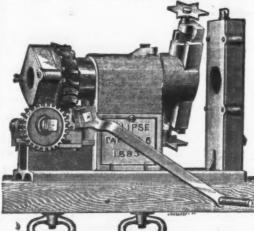
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dia actio	Door Springs.	Socket Firmer Chisel, assorted, # gross 5,00 20&10 8 Socket Framing Chisel, assorted, # gross 5,00 @	Philade ionia
dis 45&10	Gray's Rod	Auger, assorted, w gross	Wood
dis 55&10 dis 55&10 dis 55&10	Warner'sdis 3	Patent Auger, 1908'	Dunlan's Improved # dop 1,75 dis 20 % Sammis' No. 1,85 2, 88.40; 12, 815 P dox; dis 25%10 \$
dia sokto	No 2, Medium, Japanned + dos 2.75 dis so & 10	Patent Auger, Swan's # set \$1,00 net	Jen'ings "Star"
d's socio dis focio Tips. dis focio	tar (Coll) -For Cop'd, Nickel-Plated &c., see list.	Barn Door, Old patterns	The "Boss" # dos, \$15.00; 2, \$9.00; 3, \$5.00, dis 10&10 % Lines.—Linen Fish
	No. 5, Screen Door size	S Challenge	Cotton Chalk
dis 50&10 ;	abin's Lever No. 1, \$1; 2, \$1,50; 3, \$2; 4, \$2.50 .dis 35	Patent Auger, Evon's \$\psi\$ set \$\psi\$.co net Handsor \$\psi\$ set \$\psi\$.co net Star Door, New England \$\psi\$ set \$\psi\$ climax (Anti-Friction) \$\psi\$ set \$	All News Lines Fish
dis 50&10 dis 55&10 dis 56&10	abin's Boss. No. 1, # dos. 84.00; 2 \$2.75; 3, \$2.dis 33% abin's rown	Kidder's	436 82.50
A SEER SOMETO T	Philadelphia	The "Boss"	Wire Clothes, Galvanizedeach 250@400 net
dis 50&10 ; dis 55&10 ; dis 50&10 ;	Hubber, complete w dos. \$1.50, dis fo	Harness Snaps. Anchor (T. & S. Mig. Co.)	Cabinet, Eagle
dia sold i	Arlington Edge Tool Codis 6c&10	Henshaw's, list of 114 changed to \$14.00,	Locks and Latches, Cabinet, Eagle
dis 15 5	Crossman's No. 1dis 65&5	Fitch's (Bristol), list of 116 change to \$14.00dis 154.70 Hotchkiss'	Cabinet, A. E. Deits
dis 25 5	Nobles Mfg. Codis 15 Bradley'sdis 36	Andrews' dis to % Sargent's dis 70&10 %	Trunk, new list, Jan. 1, 1881dis 1582 % Langstroth & Crane's List, Jan. 1, '77:
dis 30 5	Witherby Tool Codis 65&10 Dourlassdis 65&20	A ndrews' dis 10 \$	Round Key, Nos. 1 to 5
dia 25 %	Globa Mer Co	Cowneyed dressing many that that 1880 Ale 6-8-9	A. E. Deits, Flat Keydis 33/36/10 \$
dis 25 5 dis 26 70 dis 26 70 dis 50 70 70 dis 50 70 70 dis 50 70 70 dis 70 70 70 dis 70 70 70 dis 70 70 70 70 70 70 70 70 70 70 70 70 70	Blacksmiths'each, \$2.50, dis ro	### Checkers dis 30 % ### Checkers dis 30 % ### Checkers dis 30 % Shall discount discou	Cabinet, Stoddard Lock Ce. dis 1,085; Trunk, new list, Jan. 1, 1881. dis 1,682; Langstroth & Crane's List, Jan. 1, 77; Round Key, Nos. 10. dis 4,082; Round Key, Nos. 5½ to 12. dis 3,062; great Rey. Flat Key. dis 3,352; de 3,252; A. E. Deits, Flat Key. dis 3,054; great Rey. Yale Loos Co., Flat Key. dis 3,645; great Rey. Sbepardson 'or "U.S." dis 3,545; great Rey. Felter 'or "American" dis 3,354; great Rey. Flate. dis 3,354; great Rey. P. Many's "Extension Cylinder" \$10.50 dos not be seen to the seen t
dis soltio 7	Breast, F. S. & W	Claw, Nos. 1 2 4 # dos 7.75 8.40 0.25 Lathing, Nos. 1 2 3 # dos 7.50 8.00 8.50	Plate
dis 456:10 %	Breast, Millers Falls each, \$3 00, dis 25	Ashing, Nos. 12 12 13 15 15 15 15 15 15 15	Branford
ocking," Nos.	Breast, Bartholomews each, #2.50, dis 25 fto Ratchet, Merrill's	Lathing, Nos. 123# dos 775 8.60 9.25	Norwalk List prices as revised March
dia 70&10 %	Ratchet, Whitney'sdis 20	Shingling, Nos. 123	Norwich
dia so 5	Ratchet, Moore's Triple Actiondis 20\$25 Whitney's Hand Drill, Plain, \$11.00 Adjustable,	Yerkes & Plumb	Whippie Mfg. Co Trenton Lock Co Beading Hardware Co. (low list)
dis 50&10&10 %	Brills and Brill Stocks. Blacksmiths Self-Feeding. each, \$2.50, dis 10 Blacksmiths Self-Feeding. each, \$2.50, dis 20 Breast, Fotohkins dis 20 Breast, Fotohkins dis 20 Breast, Fotohkins dis 20 Breast, Fotohkins dis 20 Breast, Blatholome w's each, \$3.00, dis 20 Breast, Blatholome w's each, \$3.00, dis 20 Breast, Bartholome w's each, \$3.00, dis 20 Breast, Bartholome w's each, \$3.00, dis 20 Breast, Bartholome w's dis 20 Batchet, Merrill's dis 20 Batchet, Whitney's dis 20 Batchet, Woston's dis 20 Batchet, Woston's dis 20 Batchet, Moore's Triple Action dis 20 Batc	8 Shingling, Nos. 12 2	Reading Hardware Co. (low list)
dis 50 % dis 50 % dis 50 % dis 50 % to 0 % dis 50 % to 0 % dis 50 % to 0 % Nos 0, 1, 1%, 2, dis 60 % to 9 %	Orili Chucks.	Simmons'	Heading Hardware Co. (10 w 1185)
	Brill Chucks. dis 30 Norse's Beach Patent each, \$10.00, dis 30 Morse's Adjustable. each, \$6.00, dis 30 Oanbury. each, \$6.00, dis 30	Simmons	Yale Lock Mfg. Co.'s "Standard"dis 40 \$
i adia 60 %	Danburyeach, \$8,00, dis 30	Broad, Nos. 1 2 3 4. W dos 9.00 10.00 12.00 14.00 Broad, Nos. 5 6 7 8. W dos 16.00 18.00 20.00 22.00	Conestogs dis 60 \$ candinavian (Moore Bros.) dis 80 \$ J. H. McWilliams dis 10 \$
71.40, dis 6696&10 \$ 71.40, dis 6696&10 \$ dis 25 \$ dis 30&10 \$	Noproe's dis so	Collins	J. H. McWilliams
dia 25 %	standard	Claw. Nos. 123 # doz 6.co 6.co 7.co Lathirg. Nos. 123 # doz 5.co 6.co 6.co	A. E. Diets
dia 25 %	Dandery	Claw, Nos. c. 2 3, \$\psi\$ dos \$. \$0, 0.0, 0.0, 0.0 Broad, Nos. 5 7 \$\psi\$, \$\psi\$ dos \$. \$0, 0.0 \$. \$0, 0.0 Broad, Nos. 5 7 \$\psi\$, \$\psi\$ dos \$. \$0, 0.0 \$. \$0, 0.0 \$\psi\$, \$\psi\$, \$\psi\$, \$\psi\$ dos \$. \$0, 0.0 \$\psi\$, \$\psi\$ dos \$. \$0, 0.0 \$\psi\$, \$\psi\$, \$\psi\$ dos \$. \$\psi\$, \$\psi\$ dos \$\psi\$, \$\psi\$, \$\psi\$ dos \$\psi\$, \$	MailetaHickorydis 10410 \$
7 8 33.50 36 50	Rievator Buckets.	Claw, Nos. 123	Penfield Block Co., Lignumvitæ & Hickory dis 30 %
don \$3.00, dis 25	Elevator Buckets, tight 34 to 10 in (Due's Improved), 1101 E. Buckets, tight 34 to 10 in (Due's Improved), 1102 E. Buckets, heavy 5 to 10 in (Due's Improved), 110 E. Buckets, heavy 5 to 10 in (Due's Improved), 110 in 11	Ax Pattern, Nos. 12 1	DIXOR M(F.S. & W.) NOS. 1 2 3 4 4 5 5 5 6 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7
don \$3.00, dis as ross \$6.00, dis 25 5 on 240, dis 14@20 9	storehouse (Duc's Patent), 12 to 17, \$12 @ \$20,dis 10 5	"Lightning "	Lightam vie.
dog #3.75, dis 20 %	Emery and Emery Paper.	Gate, Western	Each \$3.00 4.00 5.00 11.00 12.00 30 00—dis 25&5 \$
OSS 80 00, dis 25 9 doz 82.50, dis 20 9 doz 87.00, dis 55 9	Flour and F. F	Gate, N. E. Beversible # doz \$7.70, dis 45 %	Hales'
8 \$5.00, G18 2985 5 3. \$2.50	medium. 8 0.50 # ream dis 15 5	Gate, N. Y. State	Draw Cut. Nos. 5 2 6 8 10
0: No. 4 824 00:	Enameled and Tinned Ware.	Gate, Common Sense # dos pair \$4 50, dis 50 \$	Each. \$40.00 75.00 \$6.00 225.00 400.00—dis 20 %
dis 50 & 10 9 doz \$3.00, dis 35 s doz \$2.50, dis 45 f	Sauce Pans. dis 25 % Inned Sauce Pans. dis 25 % inned Sauce Pans.	Gate. Shepard's Nos. 1, 2, 3, 10, 20 & 25, dis 50&10 % Rolled Blind Hinges	Each \$5.00 7.00 JC.00 24.00 40.00 Mice
dos \$2.00, dis 45 %	Kacutcheon Pina.	Rolled Raised dis 600:0 %	Kieser's Gem
	Escutcheons. Boor Locks	Wadaworths	Woodruffs (P. S. & W.)
ire, 1-10'87.C	Kacatcheons. Door Lock. Same discounts as Door Locks Brass Thread dis 55 5 Wood. dis 25 3	Strap	No
81. 10 ±	Fancets. dis 40 %	11 in & up, \$5.40 \$ 100 \$ \$ 10 \$ 1	Beef Shaver (Enterprise Mfg Co.) dis 20213 g
dis rokto €	Bohren's Patent Rubber Balldis 25 \$ Fenn's Cork Stopsdis 332 \$	Screw Book and Eye	im. (2d quality), # gross, 1 blade, \$7 2 blades, \$12 3 blades, \$15
1.40 dis 1085 g	Frary's Patent Petroleum. dis 20210 3	Wrought Strap and Tdia 554210 \$	Pennsylvania. dis 206 10 5 Nos. 1 2 3 00 F dos
750 dis 10 9	Ancher Lock. di 4.5	Company of the state of the sta	Molasses Gates
650 dis 1085 3	Cork Lined	Grub	tebbins Genuinedis 70&10 %
800, dia 24 \$	J. Sommer's Cork Lined, 1st qualitydis 50 % Self-Measuring, Enterprise dos. \$30.00. dis 20 % 10 %	Handled Planters'	hase's Hard Metaldis 502.05
July, 81, dis 40 % July, 81, dis 10 % July, 81, dis 10 % July, 81, dis 10 %	Faucets. dis 40 % Bohren's Patent Rubber Ball. dis 40 % Bohren's Patent Rubber Ball. dis 10 % Bohren's Patent Rubber Ball. dis 10 % Bohren's Patent Rubber Ball. dis 10 % Bohren's Cork Lined. dis 20 % Bohren's Patent Key dis 45 % Metallic Key, Leather Lined. dis 50 % Cork Lined. dis 50 % Cork Lined. dis 50 % Bohrmer's Best Metallic Key dis 60 % Bohrmer's Best Metallic Key dis 60 % Bohrmer's Best Metallic Key dis 60 % Bohrmer's Best Metallic Key dis 50	Hick's Pat Solid C. S., Scovill Patterndis 2085&35 \$ I. Winsted & Lane. Planters'dis 2085&35 \$	Welsses Gates tebbins Patterns
July, '81, dis 20 % July, '81, dis 10 %	Fellow Pintes B, noc, dia 25 %	Grub. \$\\$\ \\$\\$\ \\$\ \\$\ \\$\ \\$\ \\$\ \\$\ \\$\	Voct's. Sons Nes. 1 Sons Nes.
OR \$5.00. dis 30 \$ \$2.00. dis 506. \$ OR \$2.50. dis 25 \$	### Piles. J. & Riley Carr	Magic. # dos se net H ordes. Bird Cage, Sargent's list	Nuts and Washers (In lots less than so
os \$2.50, dis 25 \$ dis 25 \$ dis 45@50 \$	Noss & Gamble	Cotton Patented N. V. Mallet & Handle Wite die of S	quare Auts
dis 44@50 %	Heller Bros. 'Horse Rasps	Cotton (Humason & Beckley Mfg. Co)	Nut Crackers
dis ackto a	Nicholson	Weston's, No. 1, \$1c.co; No. 2, \$2.co \$\psi\$ dos	able (Humason & Beekley Mfg. Co.)dis 33/6 % lake's Pattern
dia 70duc f	New American dis so \$	McGiii's, 42.00 W dos	Best. Pho e S. Navy. Pho e S. Navy. Pho e Gilers. Zinc and Tin disc of
dis 70#10 \$dis 33%#10 \$	Knox, 4%-inch Rolls	Ceiting, Sargent's list	S. Navy
dis 339810 %	Fagie, 3½ inch Roll	Coat and hat, Sargent's listdls tokrokro S	Oilers,—Zinc and Tindis 60 %
pair 79e dia 34 5 pair 86c dia 34 5 sair 86c dia 34 5	Crown, 14-in., \$5.50; 6-in., \$4.00; 8-in., \$6.50 each, dis 25 % Crown Jewel	Cost and Hat. Reading. Wite Coat and Hat. Miles dis & ros Wite Coat and Hat. Miles dis & ros Wite Coat and Hat. Miles dis & ros Wire Coat and Hat. Miles dis & ros Picture itooks, Br-wn's Pat. Solid Brass. Gross dis cos Picture (T. & S. Mfg. Co.). dis cos Wires and Picture (T. & S. Mfg. Co.). dis cos Wires Wrought Staples and Hooks & Staples dis rock rock ros Wrought Staples and Hooks & Staples dis rock rock ros Wrought Staples and Hooks & Staples dis rock rock ros Wrought Staples and Hooks & Staples dis color Since Staples and Ryss dis sold a 4665 S Wrismetree—Patent dis 4665 S Hooks and Eyes—Malleable iron. dis 668: 05 Hooks and Eyes—Brass dis 668:	Ollers.—Zinc and 148 dis 60 % rass and Copper dis 50 % alleable (Hammer's). F dos. \$.00, dis 10 % alleable (Hammer's). Gis 60 % rior's Patent or "Paragon" Zinc dis 60 % rior's Patent or "Paragon" Brass. dis 50 % imstead's, Tin and Zinc dis 60 % imstead's, Brass and Copper dis 50 % coughton's, Zinc dis 60 %
61dis 50 5 dis 60 5 dis 35&5 2	American, 5-in., \$1; 6-in., \$3.40; 7-in., \$4.50 cach, dis 25.50 Domestic Fluter. White Motel \$2.50 cach, net	Picture Hooks, Brown's Pat. Solid Brass, \$4.40 P gross	rior's Patent or 'Paragon' Brass
din 15th 5	Crown Hand Fluter, Nos. 1, \$14; 2, \$12.40; 4, \$10.00	Wrought Staples and Hooks & Staplesdis 70274610 \$ 0	roughton's, Ernss and O'pper
dis 45 % dis 60&10 % dis 60&10 %	Shepard Hand Fluter, No. 85 per doz 814, die 40 % Shepard Hand Fluter, No. 116 per doz 88.75, dis 30 %	Wire Screw Hooks and Eyes	Dacking, Steam.
W gross for net	Shepard Hand Fluter, No. 05 per dos \$6.50, dis 20 % Clark's Hand Fluter	Whimetree-Patentdis 40 % Hooks and Eyes-Malleable Irondis 60&10 %	Pencils.
. F gross for net F gross \$1.00 net	Crown Hand Fluter, No. 8, 1, 81; 2, 81.00; 5 etc. 0.00 pg dos. Shepard Hand Fluter, No. 16. per coss 7, 616 so 5 Shepard Hand Fluter, No. 16. per coss 8, 75 dis 55 Shepard Hand Fluter, No. 05 per dos 8, 5, dis 55 Shepard Hand Fluter, No. 05 per dos 8, 5, dis 55 Shepard Hand Fluter, No. 05 per dos 81, co, dis 55 Combined Fluter and Sad Iron per dos 81, co, dis 55 Shiftalo per dos 81, co, dis 55 Shiftalo per dos 81, co, dis 55 Shiftalo per dos 81, co, dis 55	Hooks and Eyes—Brassdis 60&10 \$	aber's Round Gilt
. A Bross tic set	Fluting Sciscors	Nos. 5 6 7 8 9 10 Ausable, # b31c 28c 2/c 2/c 2/c 2/c dis 30&10 % Clinton. Plain. W b 2/c 2/c 2/c 2/cdis 30&10 %	Dacking, Steam. N.Y. Belting and Packing Co
		Clinton, Plain. \$\psi\$ 202 210 200 190 180 dls 30&10 \$\psi\$ Clinton, Plan, \$\psi\$ and 202 210 200 190 dls 30&10 \$\psi\$ R. Essex. \$\psi\$ 5 310 280 260 240 240 230 dls 3c&10 \$\psi\$ At Put. arg " 270 240 220 210 300 190 dls 5&7 \$\psi\$	Xon's Carpenters
Codis 65.8 10 5 ph list, dis 2214 5 dis 65.8 10 5	Forks. day, Manure and Spading	Put. and "2pc 24c 22c 21c 30c 19c dis 62c 5 Vulcan, "2bc 25c 21c 20c 19c 18c dis 1/4 5 Globe, "4c 21c 19c 18c 19c 18c dis 1/4 5 Bl Clobe, "2c 21c 19c 18c 19c 18c dis 1/4 5 A. C. "2bc 23c 21c 2c 19c 18c dis 108c 5 P. C. "2bc 23c 21c 2c 19c 18c dis 108c 5 P. C. "2bc 23c 21c 2c 19c 18c dis 108c 5 P. C. "2bc 23c 21c 2c 19c 18c dis 108c 5 P. C. "2bc 23c 21c 2c 19c 18c dis 108c 5 P. C. "2bc 23c 21c 2c	Picture Natis. rass Head, Sargent's list
dia 6chao d	Fruit and Jelly Presses. Enterprise Mig. Codis 25 %	A. C.,	rass rical, T. & S. M(g. CO
dia 65&5 \$ 0dia 65&10 \$ 76 list, dia 22% \$	Enterprise Mrg. Codis 25 %	A.C.,	dis 40% 40% dis 40% and silve 40% dis 40% and silve 40% dis 40
dis 65k10 \$	FFF Pansa. Burnished list as follows	New Haven, "316 30c 30c 24c 24c 29c	Pinking Frens # doz 75c, net
dis 65&10 5	# dos\$3.00 3.75 4.25 4.75 5.25 6.00 7.00 6.00 0.00 4.00 6.00 6.00 6.00 6.00 6	Burden. * keg \$4.37% M.	agic
\$4.00@\$4.24 to £	Gauges, Marking Stanley's Air cokes	Horse Stocks. # keg \$4.57\ Burden. R. I. Horse Shoe Co., Perkins' Improva Light, Medium and Heavy. # keg \$4.57\ Edul Shoe Co., Perkins' Improva Light, Medium Shoe Co., Perkins' Improva Edul Shoe	own Platting Machines
#\$	Ruges. dis 50&10 5 Marking Stanley's. dis 50&10 5 Marking, Chapin's. dis 50&10 5 Wire. dis 10 5 Wire, Unisston's dis 20 5 Wire, Wheeler, Madden & Co dis 10 5	diule shoes # keg \$5.37% Be	nch, First Quality
dis as 5	Wire, Diaston's	Lee Awls, Chisels. &c. Mc dos \$3.00 net	olding
dis 20 %	Gimlets.	National Ice Chisel	ie Stanley (S. R. & L. Co.) new list, Jan. '79. dis 20&10 \$ illey's "Victor" dis 20&10 \$
dis 20 5 dis 20 5 dis 20 6 5 dis 20 6 5 dis 20 6 5 6 dis 20 6 7 6 dis 20 6 7 6 dis 20 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	Eureka "Gimlets dis 40s 10 %	Punite's Shuing Head Picks	din Mig Co
dis zokto \$	Company Comp	Iron Head Picks, Sargent's # dos \$1.25 dis col: 10 \$ Ph. los Mallets, Pick in head # dos \$1.25 dis col: 10 \$ Ph.	ane Irons, Buck Bres
dis bolks s	Double Cut, Ives'dis sodio 5 Double Cut, Douglass'dis 40	loe Mallets, Pick in Handle	ane Irons. The Globe Mtg. Cu., "Baldwin ron"dis a 4 10 5
dis 6.4k5 %	G us Pots.	toe Cream Process.	ane I ons. Sanduara Teol Codis 2 dio 3
. 7	G us Pots. inned and Enameled	Dunning's Steel. Joe A wis, Chisels, &c. American loc Chisel. Stional loc State . Stional loc State . Stional loc Chisel. Stional loc Chisel. Stional loc Chisel. Stional loc State . Stoon . S	rianch, First Quality
dis 45 % F	Grindstone Planty	Packers. 1 ce Cre-pera. Safoty Reversible	in., 9 3.50; No. 4, 7 in \$21.00 # doz
dla 45 % B		Arctic Solid gross \$30; dis 10 %	Pilers
810.50, dis 45 %	Gen Wade,	1 ce Tongs.	8. 2 W. Cast Steel.
dis 20&10 % U	M. C. B. E., 9810	Kettles. Brass. 7 to 13 inches inclusive	lumbs and Levels.
tern. dis 30 5	Gun Wads. M. C. B. E., 11 up	Braw larger than 13 inches B 32c net Sta	unley R. & L. Co.'s Pat. Adjustabledis 64&10 % unley R. & L. Co.'s Non-Adjustabledis 64&10 %
dis 55 \$	Halters. 490)	K pives. Ames' Butcher Knives	apin's Patent Adjustable dia 65&10&10 % apin's Non-Adjustable
dis 55 % dis 656 % dis 566 % dis 666 %	######################################	Ames' Shoe Knives. dis 1,5 Ch Ames' Bread Knives. \$\psi \text{dis 1,5 Ch}\$ doran's Shoe and Bread Knives. \text{dis 20 States}\$	indard Rule Co. s New Adjustabledis 6c2 10 %
ersdis socs sidedis socs s	nmmera.	Hay and Straw, Wadaworth's	nison's Patent Adjustable
dis 30 % H	heney's, new list, March, 1883 dis 20& \$	H. nobs. Carriage (Jap'd Soc \(\psi\) gross)	State Stat
	umason & Decksoy	Base Common dis 30& to \$ Sat demacite Door Knobs new list, dis 35& \$ Fie Door Mineral Va	tcher Post Hole Augers 4 doz \$30.00, dis so \$
dis 10 @ 20 % N	erree dis 5% in the control of the c	Door Mineral Door Por. Jap'd Door Por. Plated Door Por. Plated	ighan's Post Hole— in, \$23,50; 7, 8 and 9 n., \$25,00 \$ dos dis 20&10 \$ reka Diggers \$ dos \$27.00
lg.Co.din 13/55 y din 13/55 y din 13/55 y ey'sdin 10 5	rarner & Nobio's	urniture Flain	runing Hooks and Shears.
		rurniture Plain	ston's Combiled Pruning Hook and Saw, # dos \$15,00, dis 20 \$ ston's Pruning Hook. # dos \$12,50, dis 20 \$ \$ Lee & Co.'s Pruner
P B 6 C To	Hand Cuffs and Leg Ireas, rovidence Tool Co., Hand Cuffs, \$15.00 \(\) dos., dis 10 \(\) rovidence Tool Co., Leg Irons, \$25.00 \(\) dosdis 10 \(\) ower'sdis 25 \(\)	hutter, Porcelain	Lee & Co.'s Pruner
dis 10 5	Handles.—Door or Thumb Latches.	Adles. Who the section of the sectio	eeler, M. & Co.'s Combination dos \$12, dis 20 \$ alap's Saw and Chisel dos \$5.00, dis 10 \$
# \$3.65, dis 10 % # \$7.50, dis 20 %	Nos	feiting, Monroe's Patent # dos \$4.00 dis 40 Hot	House and Tackle
dis schios B	ronze from Drop Latches		
\$10.00, dis 25 % B	no Plate, \$0.88	With Guards 35c extra just Jap No. 1 w dos \$10; No. 2, \$0, net Man	'd Clothes Linedis tekto \$ 7 Fork, Solid Eye\$4.50; Swivel, \$5.00, dis 50810 \$
net St	rought Chest dis fok is light Chest	Call City	as Screw dis 70s.10 h d Screw dis 60s.10 h d Screw
net S	iftingdis 55212 g	rady's Patent dis 108:10 % that the control of the	de Rackdia 45 %
dis 25 % Be	oynton's Loop Saw Hatdies	dia valvo di	unches. \$\psi\$ dos \$2.00; a.gs 2.50, dis 50 \$\frac{1}{2}\$ is \$\pi\$ Call Co, \$\pi\$ Cast Steel Drive
dis as S Ba	Handles.—Door or Thumb Latches. No	e Beque dis 10210 file Bent Bent Bent Bent Bent Bent Bent Ben	ais & Call Co.'s Springfield Socketdis 50\$ 5
	-		

Spring # dos \$7.00, dis 50\$7/6 \$	Shevels and Spades.
spring	Shevels and Spades. Ames, New list, July 1, 1881
Solid Taners — dos g.t.4, un so p Rall — Sliding Door, Wrought Brass — W B Age, dis so s Sliding Door , Bronsed Wrt. Iron — W foot izc. dis g. s Sliding Door Iron, Painted — W foot 4c. dis iok io s Barn Door — Inch. — 9 56 B. D. for N. E. Hangers — Small — Large. Per 100 feet — \$2.10 — 2.70 — 30 — not Terry's Wrought Iron, 50e W foot	Payme Pettebone & Son, R. R. Shovelsdis 75 % Gemington's (Lowman's Patent)dis 30 % Rowland'sdis 20 %
Barn Door Inch	Iron and Brass Head, P. & E. Hatdis tockyolo S. Iron and Brass Head, P. B. & Wdis tockyolo S. Pollshod State and Pollshod State an
Per 100 feet	
	Less han a case Spoke Spoke dis 55tio 5
Badger's Emerson	Wood
Raper Strees	Speke Trimmers. # dos \$10.00, dis 40&5 \$ Stearns # dos \$9.00, dis 20&10 \$
Forrey's	Ne. 7, \$15,00; No. 2, \$12.00 W dos, dis 55&10 S Deuglass'
n bulk, new list, Dec. 10, 1881. dls 50 5 Copper Rivets and Burrs dis 50 5 Nos. 7 8 9 10 11 12 13 14 15 \$ 8 3.4 46 506 526 526 546 606 626 706 Rivet Seis. dis 50 56 56 56 50 526 706	Riveted Table and Tea
Rivet Sets	Reed & Barton dis 40& ro& 5 % Holmes. Booth & Haydens dis 40& ro& 5 % German Silver dis 90% 60% 5 %
stair, Brass dis Stair, Black Walnut toc. \$\forall dos. dis \$\forall tollers.\$\forall disconsistant Door, Sara Door, Sargent's list disconsistant disconsi	Specials
Come (Anti-Friction) dis 50 % R	Tin (Cowles Hdw. Co.). dis 10 % Tin (Cowles Hdw Co.), case lots. dis 20 % Stocks and Dies. dis 30 %
Ianila 1/4 inch and larger \(\psi \) b 15 c Ianila 1/4 inch \(\psi \) b 15 c Ianila 1/4 inch \(\psi \) b 15 c Ianila 1/4 inch \(\psi \) b 16 c	Stones Hindostan No. 1, 6c; Axe, 8c
laniia, Tar'd Rope	"Lightning" Screw Plate. dis to \$\frac{1}{8}\text{tense}. \tag{dis to \$\frac{1}{8}\text{tense}. \tag{dis do \$\frac{1}{8}\text{tense}. \tag{dis do \$\frac{1}{8}\text{tense}. \tag{dis to \$\frac{1}{8}\text{tenses}. \tag{dis to \$\frac{1}
sal	Washita Stone, Silps
Rules. Boxwood, Ivory. aplin's	Turkey Oil Stone (Chase)4 to 8 in., 2 b, 6oc, dis 10 % Turkey Silps (Chase)
phensdis 70&10 \$dis 555 and irons.	Lake Superior, Sups(Chase)
aghens	National Color National Color
eason's Snield and Tollet	"Mirror" # gross \$0.00, dis 5 % Ruby # gross \$3.75, net Rising Sun # gross \$5.75, net
mbined Futer and Sad Iron \$\text{\text{dog}} dog \$\$\text{\$\tex{	Boynton's Noon Day & gross No. 1, large, \$5,40 No. 2, small, \$3 ;No. 3, medium, \$4.
sund Paper. eder & Adamson's Flint, oe to 11/2\$4.75 \$ ream	Steeldis 50 %; full cases, dis 50&10 %) 2 % Iroudis 50 %; full cases, dis 50&10 % 2 %
eder & Adamson's Flint, Assorted. 475 F ream eder & Adamson's Star. 375 F ream eder & Adamson's Emery. F ream 86.50 @ 11.50	Sequares. Sequares. Stepl
Sand Paper. oder à Adamson's Flint, 00 to 1/4\$4,75 \$\pi\$ ream oder à Adamson's Flint, 2,2/6 & 5 6,5 \$\pi\$ ream oder à Adamson's Flint, 2,2/6 & 5 6,5 \$\pi\$ ream oder à Adamson's Flint, Assorted. 4,7 \$\pi\$ ream oder à Adamson's Star	Tacks, thruds, &c.
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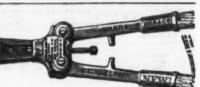
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With which is incorporated The Universal Engineer,

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JUNE 23, JULY 21, AUGUST 18, SEPTEMBER 15, OCTOBER 13, NOVEMBER 10. DECEMBER 8, 1883, JANUARY 5, FEBRUARY 2, MARCH 1 and 29, and APRIL 26, 1884.

This supplement is published in

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of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the Ironmonger not only with reach, but in the native language of eighty millions of German, twenty eight millions of Ratian, and fifty-one millions of Spinish speaking people; or, all, over two hundred millions of inhabitants in the principal nations where the best purchasers of manufactured goods are to be found.

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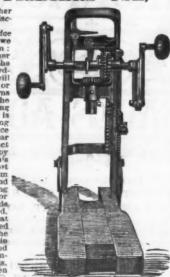
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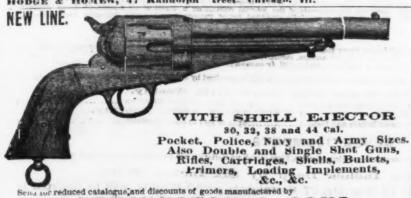
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hevels and Oliver Ame Griffiths. Howland ... nad I rens. ... Vrs. Potts' I Washita Ex Washita Ex No Sii Bindostan O

PHILADELPHIA.	Bound Head Brass, new list Dec. 27 Round Head trop, new list Dec. 27
Corrected Weekly by Lloyd, Supplee & Walton.)	Round Head from, new list Dec. 27 Speons. Plated. German Silver. Britannia, Boardman's. Parker's. Tinned. Springa.—Torrey.
Terms, 30 days. For 60 or 90 days, interest added at 10%	German Silver Britannia, Boardman's
Apvils.	Tinned
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A res.	Tacks. Snoc Nails—4-5, and over Sc. "3-5, and under 9c Double Pointed Tacks
Augers and Auger Bits New List January 7, 1880-	Double Pointed Tacks
Cook's Augersdis 40&10 % Watrous' Ship Augers	Genuine Oneida—Newhouse Im. Oneida—Newhouse list, first qual
Bates' Nut Augers	Fraps. Genuine Oneida—Newhouse. Im. Oneida—Newhouse list, first qual Ims. Oneida—Newhouse list, first qual Ims. Oneida—Newhouse list, first qual Ims. One of the control of the control Coes' Mechanics'. Wire. Wire.
Jennings' dis 10, 10kg of the Bonney's Pat. Hol. Augers, list \$48 @ dozdis 25&10 \$	Coes' Mechanics'
Stearns' Pat. Hol. Augers, list \$45 \$ dozdis 20&10 %	Wire. Bright or Ann'd, No. o to 18
Light and Commondis 16270 %	Bright or Ann'd, No. e to 18
Bevin Bros. Mfs. Co. Light Hand Bells	Coppered, c to 18 Tinned Broom Wire. Galvanized Barb Wire. Painted Barb Wire.
Gt. Western & Kentucky Cow new listdis 60 %	Calvaniand Wasses of Market Charles
Bering Machines Uprught, wishout AugersList 5.50 dis 45@50 % Angular, without Augers	Wringers. Peerloss No. 256. No. 2. Universal No. 256. No. 2.
Bolts.—Eastern Carriage Boltsdis 80 @ 80 & 70 \$	Universal No. 21/2.
Staniey, Wrought Shutterdis 50210 %	Novelty No. 2, for common tubs
Stanier, Wrought Shutter. dis soato 5 Braces. Harber? dis soato 5 Beackus. dis soato 5 Beackus. dis soato 5 Bonford dis soato 5 Bonford dis soato 5 Bonford dis soato 5 Bonford dis soato 5 Butts. Cast Fast Joint, Narrow. dis soato 6 Butts. Cast Loose Joint, Narrow. dis soato 6 I Broad dis soato 6 I Broad dis soato 6 I Broad dis soato 6 I Acorn. Loose Pin. dis soato 6 I Mayer's Loose Joint dis soato 6 Wrought Loose Joint dis soato 7 Table Hinges and Back Flaps. dis soato 7 I Narrow. Fast dis soato 7 Blind Butts. dis 55% to 7 Blind Butts.	Exectsion E. for stationary tubs, In lots of I doz. \$3.00 doz. dis. from about
American Ball	
Cast Loose Joint, Narrowdis 45&10 %	PITTSBURGI
Broaddis 55k10 5	Merchant Iron. TERMS Note or acceptance at 60 day
Mayer's Loose Jointdis 60&10 %	TERMS.—Note or acceptance at 6c day rate of exchange on New York, or a di cent. for cash, if remitted within 1c day
Table Hinges and Back Flaps dis och s	INVOICE,
Loose Jointdis 55 % 10 %	on card rates see week
	The following are card rates.
Sheparddis 70 % Luli & Porteriis 70 % io %	ilé to 4 by % to r inch
cit - to- Common Balton and Call May Deve	1% to 6 by 1% to 1% "
Galvanized Pump	1 and 11/6 by 1/6 to 1/6 inch.
1861	For fluctuations and on card rates see week burgh Trade Report. The following are eard rates. 16 to 4 by \$6 to 1 inc. 16 to 4 by \$6 to 1 inc. 16 to 6 by 16 to 15; 18 to 16 to 16; 18 to 16 to 16; 19 to 174
Chinein.—Socket Framingdis 65&10 %	3% to 3%3.00 %
Butcher's	% to %
Casters.—Bed (new list July 1. 1880.)dis 45650 S Plate	34 to 114 2.9c 14
Coffee Fills.—Box and Side, new list Jan. 1, 1880. dis 45 & Enterprise. dis 25 & Enterprise. dis 25 & Cutlery.—Walden Pocket new list net Penna. Enife Co new list net Landers, Frary & Clark, J. Russell & Co Lamson & Goodnow Mig. Co. and Meriden Cutlery Co., Manufacturery brices net.	Half Oval and Half Roun
Cutlery.—Walden Pocketnew list net Penna. Knife Conew list net	stores Shoe.
Goodnow Mrs. Co. and Meriden Cutlery Co., Manu-	Wagon Box Iron.
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Drawing Knives. Hart Mfg. Co.'sdis 65.210 ≤ Adjustable Handiedis 20 ≴	11 and 12
Fry Pans. Timed	Heavy Bande.
Timed:	134 to 334 by 34 and 5-16 11 to 136 by 34 and 5-16 11
W GOE-89.00 3.75 4.25 4.75 5.25 0.00 7.00 0.00 9.00 PO 0 I 2 3 4 5 6 7 8	% and % by % and 5-16 "
Files.	116 to 6 by 16 to 3-16
Disaton dis ço s	to 1% by % to 3-16
Eagle-3/siu. roll	% and 13-16 by % to 3-16
Piles	and 11-16 by Nos. 11 and 12
Geneva Fluterdis 25 %	% and o it by Nos. Hand 12
Hammers, Verkes & Plumb's, new list	inch by Nos. 11 and 12
Hammers, dis 30 5 Maydole Hammers, dis 15 5 Howell A. E. Nair Hammers, per dos. het \$3.75	134 to 2, Nos. 10, 17 and 18
Bandles. Disston Loop Handles Crosscut	134 to 2, No. 20.
Hatchets. Yerkes & Plumb, new listdis 30 f	1% to 2, No. 22
nuntdis 25 %	19-16. 1. and 196, Nos. 16. 17 and 18
Berse Natis. Nos. 5 6 7 8 9 10	15-10, 1, and 1)4, No. 22
Strap and T.	be inch by Nos. 17 and 12. 134 to 4, Nos. 13, 14 and 14. 134 to 2, Nos. 15, 17 and 18. 134 to 2, Nos. 15, 17 and 18. 134 to 2, Nos. 15, 17 and 18. 134 to 3, Nos. 20. 135 to 1, and 156, Nos. 13, 14 and 18. 135 to 1, and 156, Nos. 19 and 20. 135 to 1, and 156, Nos. 21. 136 Nos. 19, 14 and 18. 136 Nos. 20. 137 to Nos. 19 and 20. 137 to Nos. 19 and 25. 137 to Nos. 19 and 25. 138 Nos. 19 and 25. 149 Nos. 15, 14 and 15. 149 Nos. 15, 14 and 15. 149 Nos. 15, 14 and 15. 149 Nos. 15, 14 and 25. 149 Nos. 21. 159 Nos. 21. 159 Nos. 22.
" Pol'ed and P't'd at Blued & P't'd31 28 26 25 24 23 dis 30&10%	14. No. 22.
Pole and Pt'd. 31 28 26 25 24 23 dfs 30&tos Clinton	13-16, Nos. 16, 17 and 18
Lightning Doy dow not 8-9	19-16, No. 21 13-16, No. 22
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Branford	% NO. 23
American Padlocks dis 30, 10%2 S cash Scandinavian Padlocks dis 30, 10%2 S cash	11-10, Nos. 13, 14 and 14
¥ dos\$5.00 5.50 6.50 7.50 8.50 10.00 12.50 dis 60 \$\ \text{No} \cdots \cdot 7 & 48 & 99 & 60 & 61 & 62 & 63 \end{array} \text{dis 60 \$\sqrt{S}}	11-16. NOS. 19 and 20
Walton Straw Kulvos	%, Nos. 13, 14 and 15
No. 25 00) Large list net; small list net Tubular	No. 19 and 20
Guards, 3: cents extra per doz, net.	% No. 23
Excelsion Sand Gordon Panne	9-10, Nos. 10, 17 and 18,
Holiand PatentList 85.00 dis 10 %	9 16, No. 22
Mattocks. Long and Short Cutternew list45 % Pennsylvania Patteradis 4 %	% inch, Nos. 13, 14 and 15
VALUE BEEFE CALLED ON THE PARTY OF THE PARTY	Nos. 19 and 20
Stebbins' Gates	No. 21
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Enterorise Max Co - Rossuring Faucets dis 24,5 Steeblins' Gates dis 702:03 Lincoln's dis 602:03 Lincoln's dis 702:03 Brass Liquor Cocks, new list Jan. 1 188a. dis 46.5 Gork Lincoln dis 26.5 Steeblins's dis 26.5 Woodraff dis 26.5 Woodraff dis 26.5 Stowe di	\$\frac{1}{2}\$, Nos. 19, 2 and 28 \$\frac{1}{2}\$, Nos. 19, 2 and 20. \$\frac{1}{2}\$, No. 22 \$\frac{1}{2}\$, No. 23 \$\frac{1}{2}\$, No. 27 \$\frac{1}{2}\$, No. 27 \$\frac{1}{2}\$, No. 27 \$\frac{1}{2}\$, No. 27 \$\frac{1}{2}\$, No. 29 \$\frac{1}{2}\$, No. 29 \$\frac{1}{2}\$, No. 29 \$\frac{1}{2}\$, No. 29 \$\frac{1}{2}\$, No. 21 \$\frac{1}{2}\$, No. 21 \$\frac{1}{2}\$, No. 21 \$\frac{1}{2}\$, No. 21 \$\frac{1}{2}\$, No. 22 \$\frac{1}{2}\$, No. 22 \$\frac{1}{2}\$, No. 23 \$\frac{1}{2}\$, No. 21 \$\frac{1}{2}\$, No. 13, 14 and 15 \$\frac{1}{2}\$, No. 15, 17 and 13 \$\frac{1}{2}\$, No. 15 \$\frac{1}{2}\$, No. 10, 17 and 13 \$\frac{1}{2}\$, No. 12 \$\frac{1}{2}\$, No. 13 \$\frac{1}{2}\$, No. 12 \$\frac{1}{2}\$, No. 12 \$\frac{1}{2}\$, No. 12 \$\frac{1}{2}\$, No. 15 \$\frac{1}{2}\$, No. 15 \$\frac{1}{2}\$, No. 16 \$\frac{1}{2}\$, No. 17 \$\frac{1}{2}\$, No. 19 and 20 \$\frac{1}{2}\$, No. 22 \$\frac{1}{2}
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Dixon's.	lighter than the lightest indirated. -toe per th. extra will be charged for to specified lengths. Barrel Hoops. 124 to 2 in., cut to length. to in this, per set of 6 hoops. It is and less than 9 he, per set of 6 hoofs. Extra for Cutting to Loops. Extra for Cutting the Confinence of the Confin
Dixon's.	lighter than the lightest indirated. 1-toc per th. extra will be charged for to specified lengths. Barrel Hoops. 2 to 11 ths, per set of 6 hoops. 2 the control of the
Dixor's.	lighter than the lightest indicated. 1-toe per ib. extra will be charged for to specified lengths. Barrel Hoops. 1 to 10 z in. cut to length. 5 to 11 lbs., per set of 6 hoops. East han 9 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 1 lbs., per set of 6 hoops. East han 2 lbs., per set of 6 hoops. Eas
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		THE IRON AG
_	Bound Head Brass, new list Dec. 27dis. 40 & 10 \$ Round Head from new list Dec. 27dis. 45 & 10 \$	Nails. See Pittsburgh Trade Report.
M	Round Head Tron, new list Dec. 27	Best Quality Refined Cast Steel. Square. Flat, Octagon and Round.
60	Partings — Torrey dis of	Square. Flat, Octagon and Round.
0.00	Gem No. 3 small Jap'd	134 and 3% to 4 137 138 139
et	Other Standard Springs	% Inch 900 Oil Well Steel Forgings
00	Warner Door Springs, per dos. net	Ordinary Sizes, % to 2 inch
00,00	Store Fig. Store St. co. dis 5	Virginiary Sizes, 98 to 2 Inco. 70
et ,50	Tacks. dis scato some second scato some Nation 4-8, and over second scato some second scato some second scato	Square, Flat and Octagon, %c extra throughout the
10 % W. W.	Double Pointed Tacks	list. Cut to specified lengths, 1/2c extra. Crucible Cast Steel. Open Hearth Cast Steel. Sheef Steel.—Crucible. Best. 3d Qual. 3d Qual. Open Hearth
MMM	Traps. Genuine Oneida—Newhouse	Open Hearth Cast Steel
**	Coes' Mechanics' dis. 50&10&3 \$ " Mall. Bar dis75 \$	10 21 Kauke 120 110 90 70
%	Wire. Bright or Ann'd, No. o to 18	of the speciment lengths, sec. extra-
MANG NA	Coppered, e to 18. dia 42½ to 50 % Tinned Broom Wire. dis 55 to 57½ % Galvanized Barb Wire	Auger and Auger Bit. Black Axle Steel for carriages and wagons. See Frog Points and Plates. to Side Bars. Block Flok, Diain (hammered). 100 and Mattock, beveled (rolled). 55g Skate Steel. 55g
1 8	December No. 114	Skate Steel Table Cutlery, plain
AM A	No. 2	and Mattook, beveled (rolled)
8 5 8	Novelty No. 2, for common tubs	
* * *	In lots of 1 doz. \$3.00 doz. dis. from above price.	Spindle, subject to Maculnery classification. See Tran Spring Steel. Forread Crain: Pins and Lathe Spindles. 17: Platon Boos, plain. 58-6 Slide Bars, plain. 7: Torged to shapes. 8-6 Crucible. Owns. 16-6 Crucible. O
P. P. M.	PITTSBURGH. Merchant Iron.	
おおか	TERMS.—Note or acceptance at 6c days, with current rate of exchange on New York, or a discount of 2 per cent, for cash, if remitted within 10 days from date of	Boller, Fire-Box and Flue Sheets, not less than 3-16 thick. Boiler, Fire-Box and Flue Sheets, not less than 3-16 thick. Circulars and semi-circulars, when ordered separately. Smoke Stack, to shape. Locomotive Tank Steel.
大田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田	For fluctuations and discounts	Circulars and semi-circulars, when ordered separately. Smoke Stack, to shape.
N N	on card rates see weekly Pitts- burgh Trade Report.	Square. Round, Half Round and Flat Bastard, 8- inch and over
MMMA	Durgh Trade Reports The following are card rates. Flat Bar. 14 to 4 by \$4 to 1 inch 2.5c 14 to 5 by \$4 to 1 inch 2.5c 14 to 5 by \$4 to 1 inch 2.5c 14 to 5 by \$4 to 1 inch 2.5c 14 to 5 by 14 to 14 2.5c 14 to 5 by 14 to 15 2.5c 14 to 15 2.5c 15 to 5 inch 2.5c 15 to 15 2.5c 2.5c	square. Round, Half Round and Flat Bastard, 8- inch and over. Mill Saw, 8-inch and over. Taper, 34-inch and over. Horse and Shoe Rasp.
2	194 to 6 by 11/2 to 11/2 2.90 134 and 11/2 by 1/3 to 1/2 2.50 and 11/2 by 1/3 to 1/2 2.70	Spiral and Taper, cut to lengths.
et ld	96. 96 and 36 by \$6 to \$6 inch	Tire Cast Steel.
N N	294 to 314 3.00 34 10 7-10 3.90 394 to 4 3.50 5.75 3.10 44 to 5 1.00 14 3.50	1x1/s and over
5	% to 1%	Three and Five Ply Cast Steel. 7%C Agracultural Implement Cast Steel. 100 Fork and Kake, Crucible.
92.50	4 to 14 inch	Horse Hake Steel, cut to lengths, Crucible 36 Hoe, Crucible 75c Corn Stalk Cutter, beveled 96c Eeveled Hoe and Shovel Steel in Fars 95c Crucible Plow Steet in slabs 55c
et et &	# 1078 Shoe	
u-	76 Inch, Nos. 13 and 14	spiral and taper, cut to lengths. 55c Tire.2 -16 thick and above. 45c Toe Calk. 45c
K	11 and 12	Plow
500	14 to 6 by 4 and 5-16 inch. 2.90	Plow
300	314 to 6 by 14 and 5-16 2.7c 134 to 34 by 14 and 5-16 2.7c 14 to 14 by 14 and 5-16 2.8c 14 to 15 by 14 and 5-16 2.8c 15 and 15 by 14 and 5-16 2.8c 15 to 16 by 14 to 16 2.8c	Thrasher Steel
T X	136 to 6 by 16 to 3-16	if remitted within a days
16	t to 1% by Nos. 11 and 12. 5.10 \$4 and 13-16 by \(\)4 to 3-16. 5.20 \$5 and 13-16 by Nos. 11 and 12. 5.40	Rolls and Castings. Furnace Floor and Straightening Plates 2 c
18	# and 11-10 by 16 to 3-16	Guide Plates 3 C Spindles and coupling boxes 4%C
% et		Pine Mill Castings. 2 c Pine Mill Castings. 3 s Rolling Mill Castings under so ibs 3 c Spur and Bevol Wheels, large. 4 c Pulleys up to so inches. 3 c Engine Castings, light. 1 c beave. 46 6 to in diam. Chimet Rolls. 4 d
% % 75	134 80 4, Nos. 13, 14 and 14	Spur and lievel Wheels, large
et ec	154 to 2, No. 20	Engine Castings, light 1 C Chilled Rolls 4 6
M M	19-16. 1. and 134. Nos. 16. 17 and 18 3-50 19-16. 2. and 134. Nos. 19 and 20 3-60	6 to In. diam. 10 20 th long
NA N	16-10, 1, and 136, No. 22	After Oct. :, 1881. ho discounts will be made at set tlement as heretofore, prices guoted being net.
N. W.	74, NOS. 19 and 20	White and Red Lead. Strictly Pure White Lead in Oil. in Regs. 614c.: in 24
展展	13-16, Nos. 10, 17 and 18	Strictly Fure White Lead in Oil. in Reggs. 64cc. tn 2x b Tin Falls, 4cc. w b over keg price: 134 b Tin Falls. 1ct w b over keg price; assorted, 1 to 5 b cans. 3c. per b over keg price; assorted, 1 to 5 b cans. Ory White Lead in barrels
30 30 50	\$\frac{1}{6}\$ finch by Nos. 17 and 12.	Red Lead, very brilliant, in kegs, 6%c; in barrels 64c Litharge (Potter's Lead) 64c Freights equalised with all points where White
h	14. Nos. 19 and 20	Lead is made. Terms: Note at sixty days, or if paid within 14 days from date et invoice a discount of 214 per cent, will be allowed, but not otherwise.
h %	11-10, Nos. 19, 17 and 18	Window Glass. Discount. 70 \$ an Single Strength, 70 & 10 \$ on Doub'e.
×	11-16, No. 21. 4.20 1-16, No. 22. 4.50 1-16, No. 23, 14 and 15. 4.50 1-16, No. 13, 14 and 15. 4.50 1-16, No. 16, 17 and 18 4.60 1-16, No. 16, 17 and 20 4.60 1-16, No. 16, 17 and 20 4.60 1-16, No. 21. 4.60 1-16, No. 21. 4.60	Single Strength,
18	%, No. 10 and 20	5 x 8 to 10 x 15
t	96, NO. 52 95, NO. 51, 14 and 14, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	183 x 2 10 x 2 3 4 9,28 8,59 8,00 7,58 18 x 2 10 x 2 3 4 9 10 10,75 9,25 8,74 7,75 1 1 x x 15 80 x 2 4 8 9 10 17,75 9,20 8,74 7,75 1 2 2 3 10,75 9,00 8,60 8 2 4 1 3 1 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1
× ×	9-16, No. 21	10.00 14 18 12.00
N N	9 10. No. 22	Double Sammeth 20,75 18,75 17.26
200		0 X 8 to 10 X 15 12.74 11.75 10.75 10.00
8 8	Ties. 1-too per ib, extra will be charged for each gauge lighter than the lightest indivated. 1-toe per ib, extra will be charged for cutting floops	26 x 26 to 24 x 36 21.00 18.50 15.75 16.25 11.50 26 x 36 to 26 x 36 to 26 x 36 21.00 18.50 15.75
% % h		24 7 78 10 01 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
200	oto 11 lbs, per set of 6 hoops. 13 to 2 in, cut to length. \$ lbs. and less than 9 lbs. per set of 6 hoops. 2 set than lbs. per set of 6 hoops. Extras for Cutting to Length all Precessing Iron. All Iron, including Tire. 1.100	35 X 60 to 40 X 60 33.4 30.00 27.74 34.00 35 X 60 to 40 X 60 33.4 30.00 27.74 34.00 35 X 60 to 40 X 60 35 X 60 to 40 X 60 35 X 60 to 40 X 60 35 X 60 5 X 60
N 44 44 14 14 14 14 14 14 14 14 14 14 14		An additional to per cent, will be charged for all glass more than so inches wide. All sizes above to inches in length and not making more than 8r united inches, will be charged in the 3r united inches bracket.
0 22 2	No. 9 and heavier	77 11 11 11 11 11 11 11 11 11 11 11 11 1
5 5 5	Sheet Iron. Charcoal Junian. No. 10 to 10 14. 3.46 4.06 6.50	Habbard, Hakewell & Ce.'s Geeds. Axes, Single Bit, Lipplacott. Per dox. \$8.00 James & Co. 25.00 James & Co. 15.00 James
000	NO. 18 to 21	Drain Tools Ilst .
20,00	No. 27	Handles, Cross Cut
6	Wood's Futent Plantshed Sheet, 1st quality (A) 10-60 2d quality (B) 9	Cross Cut. H. H. & Co., Champion, Per ft
0	Nos. 21 to 24	nes. \$2.35 Cross Cut, Lippincott, Champion. Per ft. net. \$2.35 Shovels, list
5	all he lid he cafe son I t he lid he cafe and	Spades, "
0	2)6 3, 3)6 and nch	
6	134 by 1 in 10, for Plow Handles	THE MILLER CO.
1000	## by # " "	CANTON, OHIO, Manufacturers of the
1	** 10s. to the yard	
20 11 11 10	3½ by ¾ and ½ Spikes for 20 and 26-lb. Rail	
	28 P jut Raila.—Punched and Countersunk. 14 to 2 by 4 to 54 inch. 15 to 2 by 4 to 54 inch. 15 to 3 by 4, and 7-18 inch. 15 to 4 by 7, 7-16 and 5 inch. 15 to 5 by 7 and 5 i	THE CHE BELL FO
	Inninta Nail Rods A co	Onio Farm, Church, School and Factory BELLS.
6	Norway	Also very superior strong soft and clean CASTINGS. If you have failed to get difficult pieces elsewhere give us a trial.
1	Dropper Bars 5.66 Cylinder and Landside Iron 5.66	Torrent and Unique Steam Pumps.

,	THE IRON AG	1
	Nails. See Pittsburgh Trade Report.	1
	Best Quality Pofined Core Steel	
	Square. Flat, Octagon and Eound. 4 to 2 Inches, inclusive	
	To the contract of the contrac	- 1
	Oil Well Steel Forgings	1
	Ordinary Sizes, % to 2 inch Crucible. Dessemer & Open Hearth	
	Ordinary Sizes, % to 2 ince Kound 70 ec 6-16 and 2½ fo 3 inches 8c ½ and 3½ to 6 9e 7-32 inch 100 8c 216 100 8c	
	Square, Flat and Octagon, 14c extra throughout the	
	Cut to specified lengths, 1/2c extra.	1
	Crucible Cast Steel	
	Best. 2d Qual. 3d Qual. Open Hearth	
	To at gauge	-
	Axie Steel for carriages and wagons	
	Pick, plain (hammered)	
	Skate Steel	11
	Roller	-1
	Spingle, subject to Machinery classification. See Tran Spring Steel. Forsed Grank Pins and Lathe Spingles. tree Platon Bods, blain. tree Platon Bods, blain. See See See See See See See See See Se	-
	forged to shapes	
	Holler, Fire Roy and Flue Chasts	
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	ately	1
	Square. Round. Half Round and Flat Bastard &	
	Locomotive Tank Steel. Square. Round. Half Round and Flat Bastard. 8- inch and over. 86 mill Saw. 8-Inch and over. 88 Taper, 314-inch and over. 96 Horse and Shoe Rasp. 88	
-	Horse and Shoe Rasp	
-		
	1x14 and over. 1x3-10, [4x3-16 and 4-3. 4x5-16 and 1-1x3-10, [4x3-16 and 4-32. 4x3-16 and 4-32. 4x5-16 and 4-32. 9460	1
-	Solid Safe Cast Steel. 7/2C Three and Five Ply Cast Steel. 7/2C Agricultural Implement Cast Steel. 100	1
On or other Persons and	1 and 13-163% and 5-32. 3/33-10 and 6-32. 9/36 % and 5-32% and 3-32 and 1-3 g. 9/36 Solid Saio Cast Steet. 1-6 Solid Saio Cast Steet. 7/3c Aprocuttival Implement Cast Steet. 100 Fork and Rake, Crucible. 8 Horse Rake Steet. cut to lengths, Crucible. 56 Hoc. Crucible. 56	
-	Beveled Hoe and Shovel Steel in Pars. 9360 Crucible Piow Steel in slave	
Contract of the last	Spring	1
of the latest designation in	Tire. 16 thick and above	1
-	Axie Billets	1
and an analysis	Spring. Sessemer and Open Hearth. Spring. Spr	
-		
-	if remitted within as done	
-	Rolls and Castings. Furnace Floor and Straightening Plates	
Distriction of the last	Guide Plates. 3 C Sand kolls and Plnions. large size. 3 C	
and second	Housings and Castings not otherwise specified 2 c guide Plates. See Spindles and coupling boxes. See Sand kolls and Pinions, targe size. 5 c sand kolls and Pinions, targe size. 5 c size of the see See See See See See See See See Se	
Married 1988	Pulleys up to so inches.	
	Rolling all Castings under so lbs i C spar and lievel Wheels, large. J C Pulleys no to so inches amail. 196 Over so inches. 1 C Engine Castings, light. 196 Engine Castings, light. 196 To the Control of the Control	1
l	6 to In, diam. to 20 in, long	1
	14 to 31 in. After Oct. :, 1881, no discounts will be made at set	
-	White and Red Lead. Strictly Pure White Lead in Oil, in Food 6160, in the	
***************************************	Strictly Pure White Lead in Oil. in Regs. 64c.: in 25 B Tin Palla, 4c. Who over keep price: 1256 B Tin Palla, 1c W B over keep price; 1256 B Tin Palla, 1c W B over keep price; assorted, 1 to 5 B cans. 3c. per b over keep price.	1
	Palls, it \$\pi\$ bover keg price; assorted, t to \$\pi\$ cons. \$\pi\$, coper b ever keg price. Dry White Lead in barrels. Red Lead, very brillians, in kegs, \$\pi_6\$; in barrels \$\pi_6\$; that constant \$\pi_6\$; freights equalised with all points where White Lead is made.	
	Freights equalized with all points where White Lead is made. Terms: Note at sixty days, or if paid within 14 days from date of invoice a discount of 2% per cent, will be allowed, but not otherwise.	
	Window Glass	
	Discount. 70 % an Single Strength, 70 & 10 % on Doub'e.	
STATE	Size. AA. A B. C.	1
	5 x 8 to 10 x 15	
	11 X 14 00 10 X 24. 9,26 8,50 8,00 7.37 15 X 25 12 0 X 30. 10.75 9.75 8.76 7.77 26 X 25 10.75 9.00 8,00 7.37 15 X 35 80 24 X 30. 12.25 10.75 9.00 8,00 8,00 8 X 35 80 24 X 35. 12.30 11.50 9.75 9.00 8,00 8,00 8 X 35 80 25 X 35 14. 12.4 10.32 10.75 9.50 9.50 30 X 52 0 X	-
	26 X 40 EO 30 X 50	
	36 x 60 to 40 x 60	
l	11 X 16 to 16 X 24	
l	15 x 36 to 24 x 30	
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	36 x 60 to 40 x 60 33.24 30.00 27.74	
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	Saws, Circular. dis 455 Long dis 405 "Cross Cut, H. H. & Co., Champion, Per ft.	1
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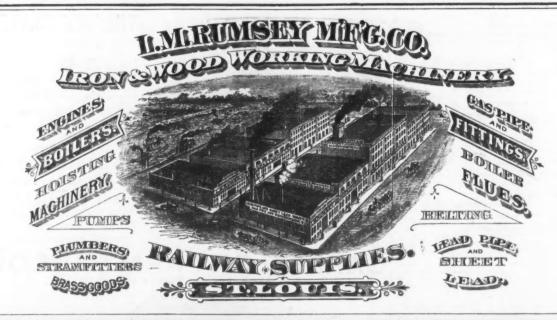
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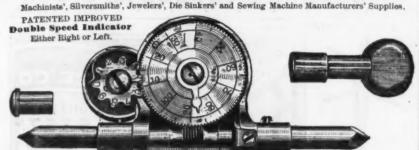
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	Axle Clipsdis 50 % Balances,—Chatillon'sdis 33\4 %
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Union Lose Joint.
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Hand Sanson			44
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HoesW. C. & Co.'s			dts 60
Hooks and Staples.—Brewers	(new li	Bt)	dis 60
Horse Nails No. 6 National Finished	7 8 21 .20 . 22 .21 .	9 19(118 20 %
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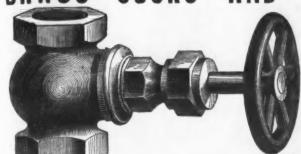
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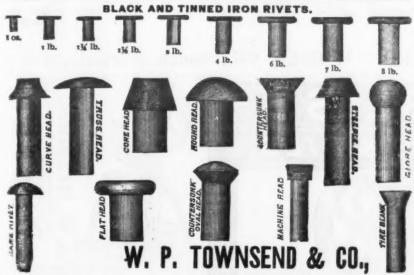


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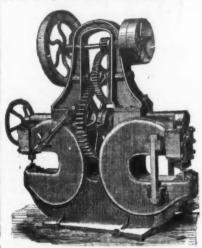


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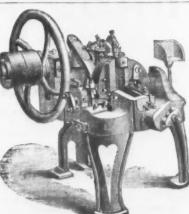
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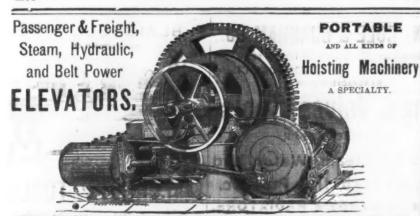


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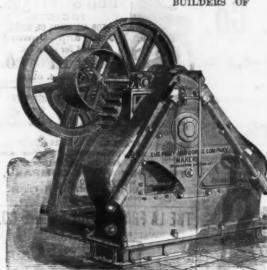
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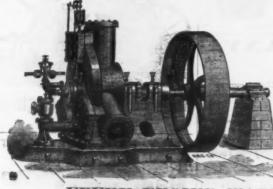
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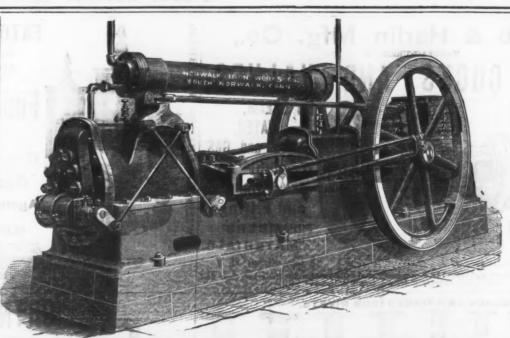
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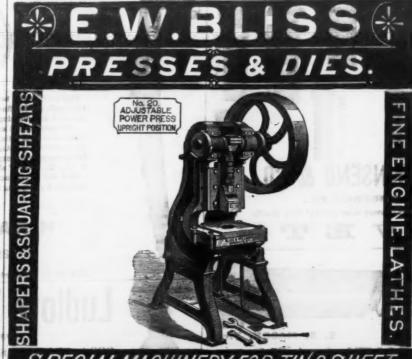
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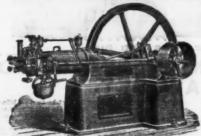


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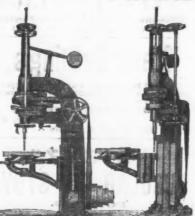
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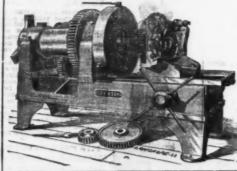
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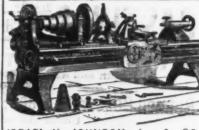
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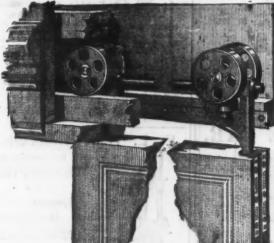
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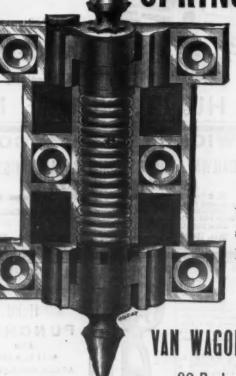
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